National Bureau of Standards
Library, N.W. Bldg
MAY 7 1962

PB 161638

NBS

Technical Note No. 137

Boulder Laboratories

A BIBLIOGRAPHY OF THE THERMOPHYSICAL PROPERTIES OF OXYGEN AT LOW TEMPERATURES

BY J. C. HUST, L. D. WALLACE, J. A. CRIM,
L. A. HALL, AND R. B. STEWART

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

THE NATIONAL BUREAU OF STANDARDS

Functions and Activities

The functions of the National Bureau of Standards are set forth in the Act of Congress, March 3, 1901, as amended by Congress in Public Law 619, 1950. These include the development and maintenance of the national standards of measurement and the provision of means and methods for making measurements consistent with these standards; the determination of physical constants and properties of materials; the development of methods and instruments for testing materials, devices, and structures; advisory services to government agencies on scientific and technical problems; invention and development of devices to serve special needs of the Government; and the development of standard practices, codes, and specifications. The work includes basic and applied research, development, engineering, instrumentation, testing, evaluation, calibration services, and various consultation and information services. Research projects are also performed for other government agencies when the work relates to and supplements the basic program of the Bureau or when the Bureau's unique competence is required. The scope of activities is suggested by the listing of divisions and sections on the inside of the back cover.

Publications

The results of the Bureau's research are published either in the Bureau's own series of publications or in the journals of professional and scientific societies. The Bureau itself publishes three periodicals available from the Government Printing Office: The Journal of Research, published in four separate sections, presents complete scientific and technical papers; the Technical News Bulletin presents summary and preliminary reports on work in progress; and Basic Radio Propagation Predictions provides data for determining the best frequencies to use for radio communications throughout the world. There are also five series of nonperiodical publications: Monographs, Applied Mathematics Series, Handbooks, Miscellaneous Publications, and Technical Notes.

A complete listing of the Bureau's publications can be found in National Bureau of Standards Circular 460, Publications of the National Bureau of Standards, 1901 to June 1947 ($1.25), and the Supplement to National Bureau of Standards Circular 460, July 1947 to June 1957 ($1.50), and Miscellaneous Publication 240, July 1957 to June 1960 (Includes Titles of Papers Published in Outside Journals 1950 to 1959) ($2.25); available from the Superintendent of Documents, Government Printing Office, Washington 25, D. C.

NATIONAL BUREAU OF STANDARDS
Technical Note

137

February 1962

A BIBLIOGRAPHY OF THE THERMOPHYSICAL PROPERTIES OF OXYGEN AT LOW TEMPERATURES

by

J. C. Hust

L. D. Wallace

J. A. Crim

L. A. Hall

R. B. Stewart

NBS Technical Notes are designed to supplement the Bureau's regular publications program. They provide a means for making available scientific data that are of transient or limited interest. Technical Notes may be listed or referred to in the open literature. They are for sale by the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C.

DISTRIBUTED BY

UNITED STATES DEPARTMENT OF COMMERCE

OFFICE OF TECHNICAL SERVICES

WASHINGTON 25, D. C.

Price $ 2.25

CONTENTS

Page

Abstract 1

Introduction 2

Format for Listing Citations and Contents of Documents . . 2

Abstracting Journals and Bibliographies Searched 3

Acknowledgements 4

Index of Properties 5

Author Index 21

Bibliography of References 25

A BIBLIOGRAPHY OF THE THERMOPHYSICAL PROPERTIES OF OXYGEN AT LOW TEMPERATURES*

J. G. Hust   L. D. Wallace   J. A. Crim   L. A. Hall   R. B. Stewart

ABSTRACT

This bibliography of the mechanical, thermodynamic and transport properties of oxygen below 0°C presents 325 references and is the result of a thorough search of the world's scientific and engineering literature. In addition to searching abstracting journals and bibliographies, the authors reviewed each document for property data and for additional references. Listed for each reference are the properties and the corresponding temperature and pressure range, together with additional pertinent information such as the type of data (i.e., whether the data are derived from experimental measurements, theoretical considerations or as a compilation from other sources), the form and amount of data, etc. An index according to property, sub-indexed for temperature and pressure ranges, and an author index are included.

---

* This bibliography is a result of a study made under contract with the National Aeronautics and Space Administration by the Cryogenic Data Center of the Cryogenic Engineering Laboratory.

1. INTRODUCTION

This bibliography presents the results of a search of the world's scientific and engineering literature for the mechanical, thermodynamic, and transport properties of oxygen at low temperatures. While the primary objective was to catalog the literature for the properties of oxygen at cryogenic temperatures, references including information on properties up to 0°C were included. A list of references was first compiled from the abstracting journals and bibliographies (See Section 3. below). Following this review, copies of the documents were procured and the bibliography and other references cited in each document surveyed. Copies of additional documents pertaining to this subject were in turn obtained and inspected for inclusion in this bibliography and also for additional references. In addition to this rather comprehensive coverage of the open literature, citations of company reports and other corporate publications containing information on the properties of oxygen at low temperatures have also been included whenever copies of these documents could be obtained. All pertinent literature reviewed has been listed with no attempt made to evaluate the documents.

The citations have been arranged alphabetically and numbered; the alphabetical sequence has been maintained by assigning to late additions the number of the preceeding item followed by an A, B, etc. Following each citation in the bibliography, there is a listing of the properties of oxygen presented in the document together with the temperature and pressure range for which the properties are given. The form of data is indicated, and for tabular material the number of values are reported. From the information listed for each citation, the property index together with a sub-index for temperature and pressure ranges were prepared with a computer program. It should be particularly noted that the remarks on the contents of each document pertain only to the information available on oxygen.

During the time this bibliography was being compiled, the Cryogenic Data Center prepared a digital computer system for bibliography retrieval and completed the coding for the system of the Data Center's bibliography file for properties of fluids. The Data Center made an automated search for the properties of oxygen as the manuscript for this bibliography was being finished and, as a consequence, forty-nine more references were added.

2. FORMAT FOR LISTING CITATION AND CONTENT OF DOCUMENTS

The general form for the listing of references is: (1) author, (2) title of the document and (3) publication citation. Abbreviations of the journal names for the listing of references are in agreement with Chemical Abstracts (Chemical Abstracts Service, Ohio State University, Columbus 10, Ohio). Titles of articles published in other than the English language are listed in the original languages of the documents followed by the English translation of the titles, except for a few articles in languages with other than the Roman alphabet, where only the English translation is given.

The documents were coded and the following information listed for each citation:

a. The properties of oxygen that are included in the documents together with the temperature and pressure range. (The temperature and pressure range follows the list of properties to which it pertains.)*

b. The fluids for which property data were included in a document are listed if these fluids are not identified in the title of the paper. This notation is omitted for articles containing information on oxygen only.

c. The type of data is noted, i.e. whether the data are derived from experimental measurements, theoretical considerations or as a compilation from other sources. The type of data is also indicated in the property index following each citation number by the letters E, T, C, which identifies that citation as (E) experimental, (T) theoretical, and/or (C) compilation.

d. The form of the data is noted following the type of data together with the amount of tabular data, i.e., tables (number of tabular values), graphs, and/or equations.

e. The notation apparatus refers to a pictorial or narrative description of apparatus in the document.

f. The source of data for those documents designated as compilations is referenced by the source document number in this bibliography.

g. The original language of the publication is noted if it was other than English. In addition, if translations are known to be available for foreign language documents, that information is also given.

h. Documents that came to our attention too late for copies to be obtained were coded from the abstract only and are so indicated on the last line of the document description.

3. ABSTRACTING JOURNALS AND BIBLIOGRAPHIES SEARCHED

The search for references to literature containing information on the thermophysical properties of oxygen was made in the following areas:

a. Chemical Abstracts, Vol. 19 through 54, (Nov. 13, 1925 through July 10, 1960).

b. Engineering Index, (1918 through 1959).

c. ASME Seventy-Seven Year Index, Technical Papers, (1880 through 1956). Index of ASME Transactions, No. 78 through 81, (1956 through 1959).

---

* Most reference books and handbooks were generally coded for property only and no temperature range or pressure range was included with the properties listed. In addition, the temperature and pressure ranges were also omitted on references to state points such as triple point, normal boiling point, critical point, etc. In many cases the pressures and occasionally the temperatures were not given in the document reference. This is most often the case for properties near atmospheric pressure that are essentially temperature dependent only.

d. Index of the Journal of the American Rocket Society, Vol. 26 through 30, (1956 through 1960).

e. Retrieval Guide to Thermophysical Properties Research Literature, Y. S. Touloukian, Thermophysical Properties Research Center, Purdue University, Lafayette, Indiana.

f. Bibliographies and references cited in each document listed in this bibliography.

4. ACKNOWLEDGEMENTS

The literature search for this bibliography has been pursued in part by each of the authors. The original search was started in June 1960, and was not concluded until the manuscript was completed. In addition to the authors listed, the entire staff of the Cryogenic Data Center have contributed by their constant alertness for documents pertinent to this bibliography. In particular, the authors wish to acknowledge the following contributions: Dr. F. E. E. Germann for reviewing and coding all documents written in French or German and for translations of the titles of these papers; Robert Smith for completing his computer retrieval system for the Cryogenic Data Center's bibliography in time to check the completeness of our literature survey; Mrs. Billie Green and Mrs. Jo Ann Kirby for reviewing the bibliography citations; and V. J. Johnson for his many suggestions and criticisms as the search progressed and for review of the final manuscript.

5. INDEX OF PROPERTIES

Page

1. Pressure-temperature-volume (or density) data, compressibility factor 6
2. Equation of state, virial coefficients 7
3. Coefficient of expansion, compressibility 8
4. Specific heat at constant pressure, volume, or saturation; specific heat ratios 9
5. Velocity of sound 10
6. Vapor pressures, saturated densities, melting points 11
7. Boiling point (normal) 12
8. Melting point (normal) 12
9. Triple point 12
10. Critical point 12
11. Transition points (solid) 12
12. Phase transition heats, latent heats 13
13. Entropy, enthalpy, Gibbs Function, Helmholtz Function 14
14. Thermal conductivity, heat transfer coefficient 15
15. Viscosity 16
16. Prandtl number 17
17. Surface tension 17
18. Absorption and adsorption 18
19. Diffusion coefficients 18
20. Properties of binary and ternary systems including oxygen 19
21. Joule-Thomson Coefficient, Joule Coefficient 20

The letters E, T, C following each citation number refer to the type of data, i.e., E = experimental, T = theoretical and C = compilation. The letters A, B, etc. immediately following the citation number are a part of that number and have been used for late additions to maintain the alphabetical arrangement of the bibliography (documents are arranged alphabetically by first author).

Most reference books and handbooks were coded by property only and were not sub-indexed for temperature and pressure ranges. These reference works are indicated by an (*) following the citation number instead of the E, T, C coding. Other documents which have not been sub-indexed for either or both the temperature and pressure ranges for all or a part of the data are indicated by a (+) following the citation number in addition to the E, T, C code.

PROPERTY INDEX

1. PRESSURE - TEMPERATURE - VOLUME (OR DENSITY) DATA, COMPRESSIBILTY FACTOR

12 E   13 E   15+T   15ATC   16AT   19BTC   30 TC   31 *   32 TC   33 C
38AE   40+C   42AE   42BE   44 ET   46 E   55 TC   66+T   72+E   73 E
78+TC   79+C   80+C   83+T   84+T   85 TC   92A+C   92B+E   93 E   96 *
104 *   107 E   108 E   108AC   112 E   115 *   120 ET   121+E   123 C   124 T
131A+E   132+E   137BE   137C+T   145 C   148 E   150 E   151 C   152 C   154 ET
155B+C   156 E   157A+C   158+T   163 E   166 TC   171 E   174+EC   178+E   181A+C
183+TC   186 *   187 TC   194AT   195 T   196+   197 E   198+E   199 T   213 E
220 *   231 *   233 T

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
42BE   44 ET   155B+C   178+E

ABOVE 50 TO 155 K
19BTC   30 TC   32 TC   33 C   38AE   42AE   42BE   44 ET   46 E   73 E
84+T   85 TC   92B+E   93 E   107 E   108AC   112 E   120 ET   123 C   124 T
131A+E   132+E   137BE   145 C   148 E   150 E   151 C   152 C   155B+C   156 E
157A+C   171 E   174+EC   178+E   187 TC   194AT   197 E   198+E   199 T   213 E
233 T

ABOVE 155 TO 250 K
15ATC   16AT   19BTC   32 TC   33 C   55 TC   84+T   85 TC   107 E   108 E
108AC   120 ET   124 T   137C+T   145 C   151 C   152 C   154 ET   155B+C   156 E
163 E   166 TC   195 T   233 T

ABOVE 250 K
12 E   13 E   15ATC   16AT   19BTC   32 TC   33 C   55 TC   72+E   84+T
85 TC   107 E   108 E   108AC   120 ET   124 T   145 C   151 C   152 C   154 ET
155B+C   166 TC   181A+C   195 T   233 T

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
12 E   13 E   15ATC   16AT   19BTC   30 TC   38AE   42AE   42BE   44 ET
46 E   55 TC   73 E   85 TC   93 E   107 E   108 E   108AC   112 E   123 C
124 T   145 C   150 E   151 C   152 C   154 ET   155B+C   157A+C   171 E   181A+C
187 TC   195 T   197 E   198+E   199 T   213 E   233 T

ABOVE 1 TO 10 ATM.
15ATC   16AT   19BTC   32 TC   42AE   55 TC   73 E   85 TC   93 E   108AC
123 C   124 T   145 C   150 E   151 C   152 C   156 E   187 TC   195 T   197 E
198+E   199 T   213 E

ABOVE 10 TO 50 ATM.
16AT   19BTC   32 TC   33 C   42AE   55 TC   73 E   85 TC   108AC   120 ET
123 C   124 T   137BE   145 C   148 E   150 E   151 C   152 C   163 E   166 TC
187 TC   194AT   195 T   197 E   198+E   199 T   213 E

ABOVE 50 ATM.
16AT   19BTC   32 TC   33 C   42AE   55 TC   85 TC   108AC   120 ET   124 T
137BE   145 C   151 C   152 C   163 E   166 TC   187 TC   195 T   197 E   199 T
213 E

2. EQUATION OF STATE, VIRIAL COEFFICIENTS

14+T 15+T 15ATC 16 ET 16AT 29 E 32 TC 33 C 38B+T 53 T
54 T 57+TC 80+C 83+T 83A+TC 84+T 85+TC 96 * 100+C 102+T
103+T 104 * 108AC 110+ET 120 ET 137C+T 151 C 158+T 177+TC 195 T
199 T 202B+ET 204A+E 211 E 214+T 233 T

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
214+T

ABOVE 50 TO 155 K
16 ET 29 E 32 TC 33 C 53 T 83A+TC 84+T 85+TC 100+C 108AC
120 ET 151 C 177+TC 199 T 202B+ET 204A+E 211 E 214+T 233 T

ABOVE 155 TO 250 K
15ATC 16AT 29 E 32 TC 33 C 54 T 83A+TC 84+T 85+TC 100+C
108AC 120 ET 137C+T 151 C 177+TC 195 T 214+T 233 T

ABOVE 250 K
15ATC 16AT 29 E 32 TC 33 C 54 T 83A+TC 84+T 85+TC 100+C
108AC 120 ET 151 C 177+TC 195 T 233 T

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
15ATC 16AT 108AC 151 C 195 T 199 T 211 E 233 T

ABOVE 1 TO 10 ATM.
15ATC 16AT 108AC 151 C 195 T 199 T

ABOVE 10 TO 50 ATM.
16 ET 16AT 29 E 33 C 53 T 108AC 120 ET 151 C 195 T 199 T

ABOVE 50 ATM.
16AT 33 C 53 T 54 T 108AC 120 ET 151 C 195 T 199 T

3. COEFFICIENT OF EXPANSION, COMPRESSIBILITY

30 TC　53 T　54 T　56+T　80+C　83+T　107 E　130+T　131 TC　141 E
142 E　186 *　199 T　207 E　213 E　220 *　233 T

SUB-INDEX BY TEMPERATURE RANGE

ABOVE 50 TO 155 K
30 TC　53 T　107 E　131 TC　141 E　142 E　199 T　207 E　213 E　233 T

ABOVE 155 TO 250 K
54 T　107 E　233 T

ABOVE 250 K
54 T　107 E　233 T

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
30 TC　107 E　131 TC　141 E　142 E　199 T　207 E　213 E　233 T

ABOVE 1 TO 10 ATM.
141 E　199 T　213 E

ABOVE 10 TO 50 ATM.
53 T　199 T　213 E

ABOVE 50 ATM.
53 T　54 T　199 T　213 E

4. SPECIFIC HEAT (HEAT CAPACITY) AT CONSTANT PRESSURE, VOLUME, OR SATURATION; SPECIFIC HEAT RATIOS

18 ET   19 E   21+TC   30 TC   33 C   34 E   40+C   57+TC   59 E   61 E
62+C   66+T   75 ET   77 T   78 TC   81 T   83+T   85 TC   92A+C   96 *
97 TC   104 *   106+E   110+ET   115 *   118 T   127+C   134+T   136 E   137 E
139 T   142 E   145 C   147 C   149 E   152 C   155B+C   158+T   176 *   180A+E
181A+C   182 T   184 E   186 *   202+T   202B+ET   204A+E   211 E   213AE   214+T
218 E   219 C   220 *   231 *   232 T   233 T

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
19 E   34 E   61 E   75 ET   118 T   134+T   136 E   137 E   155B+C   182 T
219 C

ABOVE 50 TO 155 K
18 ET   19 E   21+TC   30 TC   33 C   34 E   59 E   61 E   75 ET   77 T
78 TC   81 T   85 TC   97 TC   106+E   118 T   127+C   134+T   139 T   142 E
145 C   147 C   149 E   152 C   155B+C   180A+E   182 T   184 E   202+T   202B+ET
211 E   214+T   219 C   232 T   233 T

ABOVE 155 TO 250 K
21+TC   33 C   59 E   77 T   78 TC   81 T   85 TC   97 TC   106+E   118 T
127+C   134+T   145 C   147 C   152 C   155B+C   182 T   184 E   213AE   218 E
219 C   232 T   233 T

ABOVE 250 K
21+TC   33 C   59 E   77 T   78 TC   81 T   85 TC   97 TC   118 T   127+C
134+T   145 C   147 C   152 C   155B+C   182 T   184 E   213AE   218 E   219 C
232 T   233 T

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
18 ET   19 E   30 TC   34 E   59 E   61 E   75 ET   77 T   81 T   85 TC
97 TC   118 T   136 E   137 E   142 E   145 C   147 C   149 E   152 C   182 T
184 E   204A+E   211 E   213AE   214+T   218 E   219 C   232 T   233 T

ABOVE 1 TO 10 ATM.
78 TC   85 TC   97 TC   145 C   149 E   152 C   213AE

ABOVE 10 TO 50 ATM.
33 C   78 TC   85 TC   97 TC   139 T   145 C   149 E   152 C   213AE

ABOVE 50 ATM.
33 C   85 TC   97 TC   145 C   152 C   213AE

5. VELOCITY OF SOUND

10 E   18 ET   32 TC   33 C   38AE   41A+ET   70+E   85 TC   96 *   104 *
110 ET   126 E   130+T   131 TC   139 T   141 E   142 E   146A+TC   158+T   169 E
186 *   193 *   205+C   206+E   207 E   209 E   209AE   210 E   210AE   211 E
213 E   213AE   215A+   231 *   233 T

SUB-INDEX BY TEMPERATURE RANGE

ABOVE 50 TO 155 K
10 E   18 ET   32 TC   33 C   38AE   41A+ET   70+E   85 TC   126 E   131 TC
139 T   141 E   142 E   146A+TC   169 E   205+C   206+E   207 E   209 E   210 E
210AE   211 E   213 E   233 T

ABOVE 155 TO 250 K
32 TC   33 C   38AE   85 TC   110 ET   126 E   169 E   209 E   209AE   213AE
233 T

ABOVE 250 K
33 C   38AE   85 TC   110 ET   126 E   169 E   209 E   213AE   233 T

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
10 E   18 ET   32 TC   38AE   85 TC   110 ET   126 E   131 TC   141 E   142 E
169 E   207 E   209 E   209AE   210AE   211 E   213 E   213AE   233 T

ABOVE 1 TO 10 ATM.
85 TC   141 E   210 E   213 E   213AE

ABOVE 10 TO 50 ATM.
33 C   85 TC   139 T   210 E   213 E   213AE

ABOVE 50 ATM.
33 C   85 TC   210 E   213 E   213AE

6. VAPOR PRESSURE, SATURATED DENSITIES, MELTING POINTS

2 E 5 ET 5AE 5BT 8 E 9 E 16 ET 17 ET 19AET 23 E
23AE 24 C 28 E 33AE 48 E 50 E 51 E 52 E 58 ET 62+C
62A+E 62B+E 62CE 62D+E 65 E 66+T 73 E 76 E 80+C 83+T
90+E 91 E 92 E 92A+C 96 * 98+T 104 * 105 C 106 E 109 C
111 E 111A+E 112AE 113 E 115 * 119A+T 123 C 125 C 126AE 133 C
137AE 137BE 138 T 144 E 145 C 150 E 150A+EC 152 C 153 E 155B+C
159 E 160 E 161 E 162 E 170 E 180A+E 180BE 180CEC 181A+C 185+T
185AE 186 * 189+E 190 E 193 * 194 E 202A+E 219AE 220 * 221 E
231 * 235 E

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K

5 ET

ABOVE 50 TO 155 K

2 E 5 ET 5AE 5BT 8 E 9 E 16 ET 17 ET 19AET 23 E
23AE 24 C 28 E 33AE 48 E 50 E 51 E 52 E 58 ET 62A+E
62B+E 62CE 62D+E 65 E 73 E 76 E 90+E 91 E 92 E 105 C
106 E 109 C 111 E 111A+E 112AE 113 E 123 C 125 C 126AE 133 C
137AE 137BE 138 T 144 E 145 C 150 E 150A+EC 152 C 153 E 155B+C
59 E 160 E 161 E 162 E 170 E 1Y0A+E 180BE 180CEC 185AE 189+E
190 E 194 E 202A+E 219AE 221 E 235 E

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.

2 E 5 ET 5AE 5BT 8 E 9 E 17 ET 19AET 23 E 23AE
24 C 28 E 33AE 48 E 50 E 51 E 52 E 58 ET 65 E 73 E
76 E 90+E 91 E 92 E 105 C 106 E 109 C 111 E 112AE 113 E
123 C 125 C 126AE 133 C 138 T 145 C 150 E 152 C 153 E 155B+C
159 E 160 E 161 E 170 E 180BE 180CEC 185AE 190 E 194 E

ABOVE 1 TO 10 ATM.

5BT 19AET 24 C 33AE 48 E 50 E 51 E 62CE 73 E 105 C
106 E 125 C 126AE 133 C 137AE 138 T 145 C 150 E 152 C 153 E
155B+C 160 E 162 E 180CEC 194 E 219AE 221 E

ABOVE 10 TO 50 ATM.

16 ET 24 C 50 E 51 E 73 E 105 C 106 E 125 C 126AE 133 C
137AE 137BE 138 T 144 E 145 C 150 E 152 C 153 E 155B+C 162 E
235 E

ABOVE 50 ATM.

125 C 126AE 137BE 144 E 153 E

7. BOILING POINT (NORMAL)

4 E   6 E   7 E   28 E   40+C   56+T   75 ET   78 TC   79 C   80+C
90+E   91 E   92 E   92A+C   94 ET   95 E   106 E   111B+E   148A+C   153AE
155B+C   159 E   160 E   165AE   170 E   181A+C   186 *   203 C   204 C   220 *

8. MELTING POINT (NORMAL)

40+C   61 E   75 ET   78 TC   79 C   92A+C   112 E   118A+T   125 C   126AE
144 E   153 E   155B+C   161 E   172 T   181A+C   186 *   220 *

9. TRIPLE POINT

5 ET   45 E   80+C   83+T   92 E   98+T   106 E   119 C   123 C   144 E
148A+C   155B+C   186 *   220 *

10. CRITICAL POINT

16 ET   19BTC   26 E   27 E   33 C   38+C   40+C   43 E   80+C   83+T
92A+C   104 *   106 E   123 C   139 T   140+TC   145 C   148 E   148A+C   150 E
155B+C   158+T   159 E   162 E   166 TC   168 C   181A+C   186 *   234 E   235 E

11. TRANSITION POINTS

5 ET   75 ET   113 E   186 *   220 *

12. PHASE TRANSITION HEATS, LATENT HEATS

1 E   2 E   11 E   16 ET   31 *   33 C   34+E   35 E   39 ET   40+C
42 T   47 E   61 E   62+C   65 E   66+T   67 E   75+ET   78+TC   92A+C
115 *   122A+T   123+C   132A+E   138 T   145 C   149 E   152 C   155B+C   157A+C
175BE   176 *   181A+C   186 *   225 E

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
34+E   42 T   61 E

ABOVE 50 TO 155 K
1 E   2 E   11 E   16 ET   33 C   35 E   39 ET   47 E   65 E   67 E
122A+T   132A+E   138 T   145 C   149 E   152 C   155B+C   157A+C   175BE   225 E

ABOVE 155 TO 250 K
33 C   145 C   152 C

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
1 E   2 E   11 E   35 E   39 ET   42 T   47 E   61 E   65 E   67 E
138 T   145 C   149 E   152 C   155B+C   157A+C   225 E

ABOVE 1 TO 10 ATM.
1 E   138 T   145 C   149 E   152 C   155B+C   175BE

ABOVE 10 TO 50 ATM.
16 ET   33 C   138 T   145 C   149 E   152 C   155B+C   175BE

13. ENTROPY, ENTHALPY, GIBBS FUNCTION, HELMHOLTZ FUNCTION

37 T   40+C   62+C   66+T   74+T   75 ET   77 T   78 TC   79 C   83+T
85 TC   96 *   104 *   115 *   118 T   120 ET   124 T   132A+E   134+T   137AE
145 C   152 C   155A+C   157A+C   175BE   176 *   182 T   186 *   192 T   219 C
226 T   231 *   233 T

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K

75 ET   118 T   134+T   134+T   155A+C   182 T   219 C   226 T

ABOVE 50 TO 155 K

37 T   75 ET   77 T   78 TC   79 C   85 TC   118 T   120 ET   124 T   132A+E
134+T   134+T   137AE   145 C   152 C   155A+C   157A+C   175BE   182 T   192 T
219 C   226 T   233 T

ABOVE 155 TO 250 K

77 T   78 TC   79 C   85 TC   118 T   120 ET   124 T   134+T   134+T   145 C
152 C   157A+C   182 T   219 C   226 T   233 T

ABOVE 250 K

77 T   78 TC   79 C   85 TC   118 T   120 ET   124 T   134+T   134+T   145 C
152 C   157A+C   182 T   219 C   226 T   233 T

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.

37 T   75 ET   77 T   79 C   85 TC   118 T   124 T   145 C   152 C   155A+C
182 T   192 T   219 C   226 T   233 T

ABOVE 1 TO 10 ATM.

78 TC   85 TC   124 T   137AE   145 C   152 C   155A+C

ABOVE 10 TO 50 ATM.

78 TC   85 TC   120 ET   124 T   137AE   145 C   152 C   175BE

ABOVE 50 ATM.

85 TC   120 ET   124 T   145 C   152 C

PROPERTY INDEX (CONT.)

14. THERMAL CONDUCTIVITY, HEAT TRANSFER COEFFICIENTS

3+E 21+TC 25 E 31 * 40+C 41+C 60 E 63 E 64 E 68 E
78 TC 81 T 86 E 87 E 88 E 88AE 89+C 92A+C 96 * 97 TC
99+T 100+C 101+TC 102+T 104 * 115 * 116 E 127+C 128+C 129 E
135+T 143 * 146A+TC 155 E 155B+C 158A+C 173 E 181+C 181A+C 183 TC
186 * 200 C 201 E 220 * 231 * 236 E 237 E 59 E

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
135+T

ABOVE 50 TO 155 K
3+E 21+TC 25 E 41+C 60 E 63 E 64 E 68 E 78 TC 81 T
86 E 87 E 88 E 88AE 97 TC 100+C 116 E 127+C 128+C 129 E
135+T 146A+TC 155 E 173 E 181+C 181A+C 183 TC 200 C 201 E 236 E
237 E 59 E

ABOVE 155 TO 250 K
3+E 21+TC 25 E 41+C 60 E 63 E 64 E 68 E 78 TC 81 T
86 E 97 TC 100+C 116 E 127+C 128+C 129 E 135+T 183 TC 200 C
201 E 236 E 237 E 59 E

ABOVE 250 K
3+E 21+TC 41+C 60 E 63 E 64 E 68 E 78 TC 81 T 86 E
97 TC 100+C 116 E 127+C 128+C 129 E 135+T 155B+C 183 TC 200 C
201 E 59 E

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
25 E 60 E 63 E 64 E 81 T 86 E 87 E 88 E 88AE 97 TC
116 E 129 E 155 E 155B+C 173 E 183 TC 200 C 201 E 236 E 237 E
59 E

ABOVE 1 TO 10 ATM.
25 E 64 E 78 TC 86 E 88AE 129 E 155 E 183 TC 200 C 201 E
236 E 237 E

ABOVE 10 TO 50 ATM.
25 E 64 E 78 TC 86 E 155 E 183 TC 200 C 201 E 236 E 237 E

ABOVE 50 ATM.
25 E 64 E 68 E 155 E 183 TC 200 C 201 E 236 E 237 E

15. VISCOSITY

3+E 21+TC 22 T 36+T 38+C 40+C 56+T 59 E 62EET 69 E
71 E 78 TC 81 T 89+C 92A+C 96 * 97 TC 100+C 101+TC 102+T
104 * 112 E 114+ 117 E 127+C 128+C 135+T 140+TC 143 * 146A+TC
155B+C 157 T 165 C 177+TC 178+E 179 E 180 E 181A+C 182 T 186 *
191 T 204B E 208 E 212+E 215+E 216 EC 217 E 220 * 222+TC 223 T
231 *

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
135+T 157 T 178+E 182 T

ABOVE 50 TO 155 K
3+E 21+TC 22 T 59 E 62EET 69 E 71 E 78 TC 81 T 97 TC
100+C 101+TC 112 E 117 E 127+C 128+C 135+T 140+TC 146A+TC 155B+C
157 T 177+TC 178+E 179 E 180 E 182 T 191 T 204B E 208 E 212+E
215+E 216 EC 217 E 222+TC 223 T

ABOVE 155 TO 250 K
3+E 21+TC 22 T 59 E 62EET 71 E 78 TC 81 T 97 TC 100+C
101+TC 117 E 127+C 128+C 135+T 140+TC 155B+C 165 C 177+TC 182 T
191 T 204B E 208 E 216 EC 217 E 222+TC 223 T

ABOVE 250 K
3+E 21+TC 22 T 59 E 62EET 71 E 78 TC 81 T 97 TC 100+C
101+TC 117 E 127+C 128+C 135+T 140+TC 155B+C 165 C 177+TC 181A+C
182 T 191 T 204B E 208 E 216 EC 217 E 222+TC 223 T

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
22 T 59 E 62EET 69 E 71 E 81 T 97 TC 112 E 117 E 157 T
165 C 179 E 180 E 181A+C 182 T 191 T 204B E 208 E 216 EC 217 E
223 T

ABOVE 1 TO 10 ATM.
22 T 78 TC 97 TC 204B E

ABOVE 10 TO 50 ATM.
22 T 78 TC 97 TC

ABOVE 50 ATM.
22 T 97 TC

16. PRANDTL NUMBER

21+TC 37 T 59+E 96 * 99 T 127+C 231 *

SUB-INDEX BY TEMPERATURE RANGE

ABOVE 50 TO 155 K
21+TC 37 T 127+C

ABOVE 155 TO 250 K
21+TC 99 T 127+C

ABOVE 250 K
21+TC 99 T 127+C

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
37 T 99 T

17. SURFACE TENSION

5AE 9 E 82 E 83+T 92A+C 92B+E 112 E 122A+T 174+EC

SUB-INDEX BY TEMPERATURE RANGE

ABOVE 50 TO 155 K
5AE 9 E 82 E 92B+E 112 E 122A+T 174+EC

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
5AE 9 E 82 E 112 E

ABOVE 1 TO 10 ATM.
5AE

18. ABSORPTION AND ADSORPTION

109AE 125AE

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
125AE

ABOVE 155 TO 250 K
109AE

ABOVE 250 K
109AE

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
109AE 125AE

19. DIFFUSION COEFFICIENTS

3+E 99 T 100+C 102+T 143 * 146+T 177+TC 182 T 224 E

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
182 T

ABOVE 50 TO 155 K
3+E 100+C 146+T 177+TC 182 T 224 E

ABOVE 155 TO 250 K
3+E 99 T 100+C 146+T 177+TC 182 T 224 E

ABOVE 250 K
3+E 99 T 100+C 146+T 177+TC 182 T 224 E

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
99 T 182 T 224 E

20. PROPERTIES FOR BINARY AND TERNARY SYSTEMS INCLUDING OXYGEN

5AE 16AT 17 ET 19AET 23 E 23AE 33AE 39 ET 48 E 49+E
51 E 62A+E 62B+E 62CE 62D+E 82 E 83A+TC 87 E 88AE 92A+C
92B+E 111 E 111A+E 111B+E 112AE 131A+E 132+E 132A+E 137AE 138 T
150A+EC 171 E 172A+E 174+EC 180A+E 180BE 180CEC 185AE 188 E 193 *
202A+E 204A+E 210 E 219AE 221 E

SUB-INDEX BY TEMPERATURE RANGE

0 TO 50 K
172A+E

ABOVE 50 TO 155 K
5AE 17 ET 19AET 23 E 23AE 33AE 39 ET 48 E 51 E 62A+E
62B+E 62CE 62D+E 82 E 83A+TC 87 E 88AE 92B+E 111 E 111A+E
112AE 131A+E 132+E 132A+E 137AE 138 T 150A+EC 171 E 172A+E 174+EC
180A+E 180BE 180CEC 185AE 188 E 202A+E 210 E 219AE 221 E

ABOVE 155 TO 250 K
16AT 83A+TC

ABOVE 250 K
16AT 83A+TC

SUB-INDEX BY PRESSURE RANGE

0 TO 1 ATM.
5AE 16AT 17 ET 19AET 23 E 23AE 33AE 39 ET 48 E 51 E
82 E 87 E 88AE 111 E 112AE 138 T 171 E 180BE 180CEC 185AE
188 E 204A+E

ABOVE 1 TO 10 ATM.
5AE 16AT 19AET 33AE 48 E 51 E 62CE 88AE 137AE 138 T
180CEC 210 E 219AE 221 E

ABOVE 10 TO 50 ATM.
16AT 51 E 137AE 138 T 210 E

ABOVE 50 ATM.
16AT 210 E

21. JOULE-THOMSON COEFFICIENTS, JOULE COEFFICIENTS

20 E   102+T   103+T   120 ET   123+C   139 T

SUB-INDEX BY TEMPERATURE RANGE

ABOVE 50 TO 155 K
20 E   120 ET   139 T

ABOVE 155 TO 250 K
20 E   120 ET

ABOVE 250 K
120 ET

SUB-INDEX BY PRESSURE RANGE

ABOVE 1 TO 10 ATM.
20 E

ABOVE 10 TO 50 ATM.
120 ET   139 T

ABOVE 50 ATM.
120 ET

DOCUMENTS NOT APPEARING IN THE CROSS-INDEX

65A+   122   138A+   164   167   175   175A+   188A+   199A+ET   199B+ET
227   228   229   230

AUTHOR INDEX

	Document No.
Alikhanov, R. A.	1
Alt, H.	2
Andreewa, N.	16
Andrews, J. W.	175B
Andrussow, L.	3
Aoyama, S.	4, 5
Armstrong, G. T.	5A
Arnett, R. W.	5B
Aston, J. G.	6, 7, 8
Bally, E. C. C.	9
Bar, R.	10
Barschall, H.	11
Baulknight, C. W.	182
Baxter, G. P.	12, 13
Beattie, J. A.	14, 15, 15A
Beenakker, J. J. M.	131A, 132, 132A
Benedict, W. S.	233
Bennewitz, K.	16
Berger, A. W.	23, 23A, 92B
Beyer, R. T.	146A
Bijl, A.	124
Bird, R. B.	100, 101, 102
Birdsall, C. M.	16A, 111B, 112A
Blagoi, Y. P.	17
Borisoglebskiy, V. P.	196, 197, 198
Borovik, E.	18
Borovik-Romanov, A. S.	19
Bourbo, P.	19A, 111A
Braak, C.	160
Breback, W. J.	19B
Bridgeman, O. C.	15
Brillantinov, N. A.	20
Bristow, H. A. S.	155
Bromley, L. A.	21, 22
Brown, C.	23, 23A
Brown, J. R. C.	92B
Bulle, F.	24
Burton, J. T.	25, 237
Cardoso, E.	26, 27
Cath, P. G.	28, 29
Chang, C. H.	195
Chao, G. T. Y.	30
Chelton, D. B.	31
Cheney, R. K.	218
Claitor, L. C.	32, 33
Clark, A. M.	33A
Clusius, K.	34, 35, 65
Coates, J.	181
Codegone, C.	36, 37, 38
Cook, S. R.	38A
Corner, J.	38B
Crawford, D. B.	33
Crommelin, C. A.	148A, 149, 161
Dael, W. Van	see Van Dael, W.
Dana, L. E.	39
Dascalescu, A.	40
Davis, D. S.	41
Davis, H. N.	50
De Bock, A.	38C, 206, 207
Deitz, V.	42
Delaplace, R.	42A
Dewar, J.	42B, 43, 44, 45, 46, 47
Dijk, H. Van	see Van Dijk, H.
Din, F.	33A, 48, 49
Di Paolo, F. S.	16A, 112, 112A
Dodge, B. F.	50, 51
Doninck, W. Van	see Van Doninck, W.
Donnan, F. G.	9
Dorsman, C.	162
Drugman, J.	52
Duclaux, J.	53, 54, 55
Dunbar, A. K.	51
Dutta, A.	56
Ellenwood, F. O.	57
Estreicher, T.	58
Eucken, A.	59, 60, 61, 62
Evans, W. H.	176
Fastovskii, V. G.	62A, 62B, 62C
Fedorova, M. F.	62D
Fink, H. L.	180C
Fortier, A.	62E
Franck, E. U.	63, 64

Document No.

Frank, A. 65
Frenkel, J. I. 65A
Fricke, E. F. 66
Fried, F. 62
Furukawa, G. T. 67, 174
Gaffee, D. I. 68
Galkov, G. I. 69, 71
Galt, J. K. 70
Gay, N. R. 57
Gerf, S. F. 69, 71
Germann, A. F. O. 72
Germann, F. E. E. 73
Giauque, W. F. 74, 75, 76
Goff, J. A. 77
Goldman, K. 49
Goldstein, J. M. 5A
Gordon, S. 78, 79
Gratch, S. 77, 80
Greenkorn, R. A. 145
Grilly, E. R. 81, 116, 153
Grunmach, L. 82
Gubanov, A. 65A
Guggenheim, E. A. 83, 83A
Hall, N. A. 84, 85
Hall, T. A. 86
Hammann, G. 87
Haseda, T. 122
Haselden, G. G. 88, 88A
Hawkins, G. A. 89
Heijningen, R. J. J. Van see Van Heijningen, R.J.J.
Henning, F. 90, 91, 92, 194
Hersh, C. K. 23, 23A, 92A, 92B
Herzberg, F. 93
Heuse, W. 91, 94, 95, 184
Hilsenrath, J. 96, 97
Hirsch, M. 98
Hirschfelder, J. O. 99, 100, 101, 102, 103, 135
Hodgman, C. D. 104
Hoge, H. J. 105, 106
Holborn, L. 107, 108

Document No.

Holley, C. E. 108A
Holst, G. 109, 162
Homfray, I. F. 109A
Hougen, O. A. 145
Hovi, V. 110
Ibele, W. E. 84, 85
Ierland, J. F. Van see Van Ierland, J.F.
Inglis, J. K. H. 111
Ishkin, I. 19A, 111A
Itterbeek, A. Van see Van Itterbeek, A.
Jackson, W. J. 169
Jaffe, I. 176
Jenkins, A. C. 16A, 112, 111B, 112A
Johns, T. F. 113
Johnson, C. A. 114
Johnson, V. J. 115, 193
Johnston, H. L. 75, 76, 116, 117, 118
Justi, E. 118A, 119
Kaganer, M. G. 120
Kahle, H. 121
Kanda, E. 4, 5, 122
Karwat, E. 62
Kassel, L. S. 122A
Keesom, W. H. 123, 124, 125, 125A, 126, 144, 156, 208
Kelley, K. K. 76
Kerr, E. C. 126A
Keyes, F. G. 127, 128, 129
Kilpatrick, J. E. 219
Kippert, F. 190
Kirk, B. S. 155A
Kishimoto, T. 130, 131, 158
Knaap, H. F. P. 131A, 132
Knobler, C. M. 132, 132A
Koch, H. A. 133
Kolsky, H. G. 134
Komarow, P. 180B
Konnertz, F. 35
Konowalow, D. D. 135
Kostryukova, M. O. 136, 137
Krestinskii, Yu. A. 62A, 62B
Kritschewsky, I. R. 137A

Document No.

Kuenen, J. P. 137B
Kulik, N. 57
Kuss, E. 194
Kuypers, H. A. 137C, 163
Lammeren, J. A. Van . . see Van Lammeren, J.A.
Latimer, R. E. 138
Laue, M. 118A
Lebedev, M. E. 138A
Lee, J. F. 139
Levine, S. 176
Licht, W. 140
Lichter, A. 180B
Liepmann, H. W. 141, 142
Liley, P. E. 143
Linder, B. 135
Lindsay, R. B. 146A
Lisman, J. H. C. 125, 144
Lydersen, A. L. 145
Madan, M. P. 146, 191
Mann, D. B. 31
Mariens, P. 209, 209A
Markham, J. J. 146A
Masi, J. F. 147
Mathias, E. 148, 149, 150
Mc Bride, B. J. 78
Mc Closkey, K. E. 117
Mc Coskey, R. E. 67
Mc Glashan, M. L. 83A
Mc Kinley, C. 150A
Messerly, G. H. 8
Meyers, C. H. 151
Millar, R. W. 152
Mills, R. L. 153
Moessen, G. W. 7, 153A
Moles, E. 154
Monroe, A. G. 49, 68, 155
Mullins, J. C. 155A
Muskat, M. 122A
Nason, W. C. 155B
Newell, J. E. 155
Nijhoff, G. P. 156
Nissan, A. H. 157

Document No.

Noeggerath, W. C. 157A
Nomoto, O. 130, 131, 158
Nuttall, R. L. 158A
Olszewski, C. 159
Onnes, H. K. 29, 149, 150, 160, 161
162, 163, 164, 167
Orlicek, A. F. 165
Orlova, M. P. 19, 165A
Otsubo, A. 122
Otto, J. 92, 94, 95, 107, 108
Paemel, O. Van . . . . . . see Van Paemel, O.
Paoluzi, G. 166
Perrier, A. 164, 167
Peters, J. I. 88
Petrovskii, Y. V. 62C
Pickering, S. F. 168
Pitt, A. 169
Pitzer, K. S. 219
Pool, R. A. H. 170, 171
Pop, M. 172
Popovici, M. S. 172
Prikhotko, A. 172A
Prosad, S. 88A, 173
Ramsay, W. 52
Reilly, M. L. 174
Rips, S. M. 175
Rivkin, S. L. 175A
Robb, J. 33A
Roberts, D. E. 5A
Rodebush, W. H. 175B
Roseveare, W. E. 103
Rossini, F. D. 176, 219
Rowlinson, J. S. 177
Rudenko, N. S. 17, 178, 179, 180
Ruhemann, M. 180A, 180B
Sagenkahn, M. L. 180C
Sakiadis, C. 181
Salazar, M. T. 154
Sarner, S. 181A
Scala, S. M. 182
Schaefer, C. A. 183
Scheel, K. 184
Schmidt, W. 185

Document No.

Schneider, W. G. 223
Schubinkov, L. W. 180
Schumacher, H. J. 185A
Schweers, J. 125A
Scott, R. B. 186, 187, 218
Shearer, J. S. 188
Shields, B. D. C. 170
Shimokawa, J. 188A
Siemens, V. 189
Simon, F. 190
Spotz, E. L. 100, 101, 102
Srivastava, B. N. 191
Starkweather, H. W. 12, 13
Stavely, L. A. K. 170, 171, 192
Stechert, D. G. 140
Stewart, R. B. 193
Stock, A. 194
Strelkov, P. G. 19, 137
Su, G. J. 194A, 195
Sullivan, J. D. 152
Taylor, J. B. 175B
Taylor, W. J. 219
Thodos, G. 19B, 183
Timrot, D. L. 196, 197, 198, 201
Tkachenko, E. A. 199
Touloukian, Y. S. 97
Torotscheschnikow, N. S. 137A
Townley, J. R. 177
Trepp, C. 199A, 199B
Tsao, P. H. 86
Tsederberg, N. V. 200, 201
Tsien, H. S. 202
Tsin, N. M. 202A
Tupman, W. I. 192
Tuyn, W. 202B
Urk, A. Th. Van see Van Urk, A. Th.
Van Dael, W. 210
Van Dijk, H. 203, 204
Van Doninck, W. 210A
Van Ierland, J. F. 124
Van Itterbeek, A. 126, 204A, 204B, 205, 206, 207, 208, 209, 209A, 210, 210A, 211, 212, 213, 213A
Van Lammeren, J. A. 126, 214
Van Paemel, O. 211, 212, 215
Van Urk, A. Th. 137B
Van Voorhis, S. W. 77
Verbeke, O. 213
Verhaegen, L. 207, 215A
Verschoyle, T. 137B
Vogel, H. 216
Volker, E. 217
Voorhis, S. W. Van see Van Voorhis, S.W.
Wacker, P. F. 218
Wagman, D. D. 176, 219
Walker, M. K. 118
Wang, D. I. J. 219A
Wang, E. S. J. 150A
Washburn, E. W. 220
Weishaupt, J. 221
Whalley, E. 222, 223
Wilke, C. R. 22
Wilkins, R. L. 79
Williams, V. C. 133
Willihnganz, E. 8
Winn, E. B. 224
Witt, G. 225
Woolley, H. W. 226, 227, 228, 229, 230, 231, 232, 233
Worlton, W. J. 108A
Wroblewski, M. S. 234, 235
Yavnel, A. 172A
Ziebland, H. 25, 236, 237
Zeigler, R. K. 108B
Ziegler, W. T. 155A
Zink, J. 213A

BIBLIOGRAPHY OF REFERENCES

(LISTED ALPHABETICALLY BY FIRST AUTHOR)

1 ALIKHANOV, R.A.
HEAT OF EVAPORATION OF OXYGEN OVER THE TEMPERATURE RANGE 80-106 DEGREES K
ZHUR. EKSPTL. I TEORET. FIZ. VOL.29, 902-3 (1955)
TRANSLATION AVAILABLE IN
SOVIET PHYS. JETP VOL.2, 771-3 (1956)

PHASE TRANSITION HEATS (80 TO 106 DEGREES K AND 0.3 TO 4 ATM.)
EXPERIMENTAL - TABLE (7 VALUES), GRAPH, EQUATION
RUSSIAN

2 ALT, H.
UBER DIE VERDAMPFUNGSWARME DES FLUSSIGEN SAUERSTOFFS UND FLUSSIGEN STICKSTOFFS UND DEREN ANDERUNG MIT DER TEMPERATUR
ON THE HEAT OF VAPORIZATION OF LIQUID OXYGEN AND LIQUID NITROGEN AND THEIR CHANGE WITH TEMPERATURE
ANN. PHYS. (4), VOL.19, NO.4, 739-82 (1906)

VAPOR PRESSURE, PHASE TRANSITION HEATS (68 TO 90 DEGREES K AND 0.05 TO 1 ATM.)
EXPERIMENTAL - TABLES (100 VALUES), GRAPH
APPARATUS
GERMAN

3 ANDRUSSOW, L.
CONDUCTIBILITE THERMIQUE, VISCOSITE ET DIFFUSION EN PHASE GAZEUSE. MEMOIRE 10. RELATION ENTRE LES COEFFICIENTS DE CES PHENOMENES ET L'EQUATION DE MAXWELL
THERMAL CONDUCTIVITY, VISCOSITY AND DIFFUSION IN THE GAS PHASE. REPORT 10. RELATION BETWEEN THE COEFFICIENTS OF THESE PHENOMENA AND THE EQUATION OF MAXWELL
J. CHIM. PHYS. VOL.52, 295-306 (1955)

VISCOSITY, THERMAL CONDUCTIVITY, DIFFUSION COEFFICIENTS (90 TO 300 DEGREES K)
OXYGEN AND 10 OTHER GASES
EXPERIMENTAL - TABLES (22 VALUES), GRAPHS, EQUATIONS
FRENCH

4 AOYAMA, S. AND KANDA, E.
DETERMINATION OF FIXED POINTS IN THE LOW TEMPERATURE WITH A HYDROGEN THERMOMETER
BULL. CHEM. SOC. JAPAN VOL.10, 472-81 (1935)

BOILING POINT (NORMAL)
OXYGEN, NITROGEN AND CARBON DIOXIDE
EXPERIMENTAL - TABLE (3 VALUES)
APPARATUS

5 AOYAMA, S. AND KANDA, E.
THE VAPOR TENSIONS OF OXYGEN AND NITROGEN IN THE SOLID STATE
SCI. REPTS. TOHOKU IMP. UNIV. VOL.24, 107-15 (1935)

VAPOR PRESSURE (37 TO 70 DEGREES K AND BELOW 0.02 ATM.)
TRIPLE POINT, TRANSITION POINT
EXPERIMENTAL - TABLE (14 VALUES), GRAPH
THEORETICAL - TABLE (7 VALUES), GRAPH, EQUATIONS
APPARATUS

5A ARMSTRONG, G.T., GOLDSTEIN, J.M. AND ROBERTS, D.E.
LIQUID-VAPOR PHASE EQUILIBRIUM IN SOLUTIONS OF OXYGEN AND NITROGEN
AT PRESSURES BELOW ONE ATMOSPHERE
J. RESEARCH NATL. BUR. STANDARDS VOL.55, 265-77 (1955)

VAPOR PRESSURE, ACTIVITY COEFFICIENTS (65 TO 77.5 DEGREES K AND
.02876 TO .95303 ATM.), COHESIVE ENERGY DENSITY (68.4 TO 91.3 DEGREES
KELVIN AND .045 TO 1.12 ATM.) OF THE BINARY MIXTURE OXYGEN-NITROGEN
EXPERIMENTAL - TABLES (71 VALUES), GRAPHS
APPARATUS

5B ARNETT, R.W.
ON THE BULK DENSITY OF BOILING LIQUID OXYGEN
NATL. BUR. STANDARDS U.S. REPT. 6793, 16 P. (1961)

DENSITY (BULK)(SATURATED) (89 TO 94 DEGREES K AND 0.9 TO 1.5 ATM.)
THEORETICAL - EQUATION, GRAPHS

6 ASTON, J.G.
THE THERMODYNAMIC TEMPERATURE SCALE BETWEEN 10 AND 90 DEGREES K
THE NORMAL BOILING POINTS OF OXYGEN AND HYDROGEN
BULL. INST. INTERN. FROID ANNEXE (1955), 593-4

BOILING POINT (NORMAL)
EXPERIMENTAL - TABLE (1 VALUE)

7 ASTON, J.G. AND MOESSEN, G.W.
THE NORMAL BOILING POINTS OF OXYGEN ON THE THERMODYNAMIC SCALE
J. CHEM. PHYS. VOL.21, 948 (1953)

BOILING POINT (NORMAL)
EXPERIMENTAL - TABLE (1 VALUE)

8 ASTON, J.G., WILLIHNGANZ, E. AND MESSERLY, G.H.
HEAT CAPACITIES AND ENTROPIES OF ORGANIC COMPOUNDS. I. A THERMODYNAMIC TEMPERATURE SCALE IN TERMS OF THE COPPER-CONSTANTAN
THERMOCOUPLE FROM 12-273 DEGREES K
J. AM. CHEM. SOC. VOL.57, 1642-6 (1935)

VAPOR PRESSURE (63 TO 78 DEGREES K AND 0.01 TO 0.2 ATM.)
OXYGEN AND HYDROGEN
EXPERIMENTAL - TABLE (8 VALUES)

9 BALY, E.C.C. AND DONNAN, F.G.
THE VARIATION WITH TEMPERATURE OF THE SURFACE ENERGIES AND DENSITIES OF LIQUID OXYGEN, NITROGEN, ARGON, AND CARBON MONOXIDE
J. CHEM. SOC. (LONDON) VOL.81, NO.93, 907-23 (1902)

DENSITY (LIQUID), SURFACE TENSION (68 TO 89 DEGREES K)
EXPERIMENTAL - TABLES (40 VALUES), GRAPHS
APPARATUS

10 BAR, R.
VELOCITY OF SOUND IN LIQUID OXYGEN
NATURE VOL.135, 153 (1935)

VELOCITY OF SOUND (89.5 DEGREES K AND NEAR 1 ATM.)
EXPERIMENTAL - TABLE (1 VALUE)

11 BARSCHALL, H.
UBER DIE VERDAMPFUNGSWARME DES SAUERSTOFFES
ABOUT THE LATENT HEAT OF VAPORIZATION OF OXYGEN
Z. ELEKTROCHEM. VOL.17, NO.9, 345-8 (1911)

PHASE TRANSITION HEAT (90 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (1 VALUE)
APPARATUS
GERMAN

12 BAXTER, G.P. AND STARKWEATHER, H.W.
THE DENSITY OF OXYGEN
PROC. NAT. ACAD. SCI. U.S. VOL.10, 479-83 (1924)

DENSITY (273 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (1 VALUE)
APPARATUS

13 BAXTER, G.P. AND STARKWEATHER, H.W.
THE DENSITY OF OXYGEN AND ITS COMPRESSIBILITY BELOW 1 ATM. II.
PROC. NAT. ACAD. SCI. U.S. VOL.12, 699-703 (1926)

DENSITY, PV PRODUCT (273 DEGREES K AND 0.25 TO 1 ATM.)
EXPERIMENTAL - TABLES (8 VALUES)
APPARATUS

14 BEATTIE, J.A.
THE COMPUTATION OF THE THERMODYNAMIC PROPERTIES OF REAL GASES AND MIXTURES OF REAL GASES
CHEM. REV. VOL. 44, 141-92 (1949)

BEATTIE-BRIDGEMAN CONSTANTS
OXYGEN AND 8 COMMON GASES, 13 HYDROCARBONS
THEORETICAL - TABLE (5 VALUES)

15 BEATTIE, J.A. AND BRIDGEMAN, O.C.
A NEW EQUATION OF STATE FOR FLUIDS. II. APPLICATION TO HELIUM, NEON, ARGON, HYDROGEN, NITROGEN, OXYGEN, AND METHANE
J. AM. CHEM. SOC. VOL.50, 3133-8 (1928)

P-V-T, EQUATION OF STATE
THEORETICAL - EQUATIONS

15A BEATTIE, J.A. AND BRIDGEMAN, O.C.
A NEW EQUATION OF STATE FOR FLUIDS
PROC. AM. ACAD. OF ARTS SCI. VOL.63, 229-306 (1928)

P-V-T, EQUATION OF STATE (156 TO 273 DEGREES K AND 0.5 TO 10 ATM.)
OXYGEN, NITROGEN, HYDROGEN, AIR, ARGON, NEON, HELIUM, ETHYL ETHER, METHANE, CARBON DIOXIDE
THEORETICAL - TABLES, EQUATIONS
COMPILATION - DATA FROM LEIDEN LABORATORY

16 BENNEWITZ, K. AND ANDREEWA, N.
UNTERSUCHUNGEN IM KRITISCHEN GEBIET. III. ENERGIEMESSUNGEN MITTELS JOULE - EFFEKTES
INVESTIGATIONS IN THE CRITICAL REGION . III. ENERGY MEASUREMENTS BY MEANS OF THE JOULE EFFECT
Z. PHYSIK. CHEM. VOL.142A, 37-66 (1929)

DENSITY, EQUATION OF STATE, CRITICAL POINT, PHASE TRANSITION HEATS (154 DEGREES K AND 50 ATM.)
OXYGEN, NITROGEN, ARGON, CARBON DIOXIDE, METHANE
EXPERIMENTAL - TABLE (6 VALUES), GRAPH
THEORETICAL - GRAPHS, EQUATIONS
APPARATUS
GERMAN

16A BIRDSALL, C.M., JENKINS, A.C. AND DI PAOLO, F.S.
COMPRESSIBILITIES OF OZONE, OXYGEN, AND OZONE-OXYGEN MIXTURES AND THE THERMODYNAMIC QUANTITIES OF PURE OZONE
J. CHEM. PHYS. VOL.23, 441-52 (1955)

CONSTANTS FOR BEATTIE-BRIDGEMAN EQUATION OF STATE, VIRIAL COEFFICIENTS
COMPRESSIBILITY FACTOR FOR BINARY MIXTURE OXYGEN-OZONE (161 TO 398 DEGREES K AND 0 TO 100 ATM.)
THEORETICAL - TABLE (700 VALUES), GRAPHS, EQUATIONS

17 BLAGOI, Y.P. AND RUDENKO, N.S.
DENSITY OF LIQUEFIED GAS SOLUTIONS NITROGEN-OXYGEN AND ARGON-OXYGEN
IZVEST. VYSSHIKH UCHEB. ZAVEDENII, FIZ. NO.6, 145-51 (1958)

DENSITY OF BINARY SYSTEMS NITROGEN-OXYGEN AND ARGON-OXYGEN (65 TO 80 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLES (23 VALUES), GRAPH,
THEORETICAL - TABLES, GRAPHS
APPARATUS
RUSSIAN

18 BOROVIK, E.
FORMULA FOR THE HEAT CAPACITY OF LIQUIDS
ZHUR. EKSPTL. I TEORET. FIZ. VOL.18, 48-51 (1948)

HEAT CAPACITY (V=CONSTANT), HEAT CAPACITY RATIOS, VELOCITY OF SOUND (90 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, WATER, AND SEVEN COMPOUNDS
EXPERIMENTAL - TABLE (3 VALUES)
THEORETICAL - GRAPH, EQUATIONS
RUSSIAN

19 BOROVIK-ROMANOV, A.S., ORLOVA, M.P. AND STRELKOV, P.G.
MAGNETIC AND THERMAL PROPERTIES OF THE THREE MODIFICATIONS OF SOLID OXYGEN
DOKLADY AKAD. NAUK. S.S.S.R. VOL.99, NO.5, 699-702 (1954)
TRANSLATION AVAILABLE FROM CRYOGENIC DATA CENTER, NATIONAL BUREAU OF STANDARDS, BOULDER, COLORADO

HEAT CAPACITY, MAGNETIC SUSCEPTIBILITY (24 TO 78 DEGREES K AND 1 ATM.)
EXPERIMENTAL - GRAPHS
APPARATUS
RUSSIAN

19A BOURBO, P. AND ISCHKIN, I.
UNTERSUCHUNGEN UBER DAS GLEICHGEWICHT VON FLUSSIGKEIT UND DAMPF DES SYSTEMS ARGON-SAUERSTOFF
VAPOR-LIQUID EQUILIBRIUM IN THE SYSTEM ARGON-OXYGEN
PHYSICA VOL.3, 1067-80 (1936)
PHYSIK. Z. SOWJETUNION VOL.10, 271-91 (1936)

VAPOR PRESSURE OF BINARY SYSTEM ARGON-OXYGEN (87 TO 96.5 DEGREES K AND .73 TO 2.19 ATM.)
EXPERIMENTAL - TABLES (63 VALUES), GRAPHS
THEORETICAL
GERMAN

19B BREBACK, W.J. AND THODOS, G.
DENSITIES OF THE LIQUID AND DENSE PHASE REGIONS
CHEM. AND ENG. DATA SER. VOL.3, 338-41 (1958)

EXPANSION FACTOR (P-V-T) (70 TO 380 DEGREES K AND SATURATED LIQUID TO 2000 ATM.)
CRITICAL POINT
OXYGEN, ARGON, CARBON MONOXIDE, CHLOROFORM, METHANE, CARBON DISULFIDE, PHOSGENE
THEORETICAL - TABLE (1 VALUE), GRAPHS
COMPILATION -DATA FROM 9

20 BRILLANTINOV, N.A.
MEASUREMENTS OF THE JOULE-THOMSON EFFECT OF AIR AND OXYGEN AT LOW PRESSURES
ZHUR. TEKH. FIZ. VOL.18, 1113-22 (1948)

JOULE-THOMSON COEFFICIENT (90 TO 160 DEGREES K AND 2.001 TO 2.26 ATM.)
EXPERIMENTAL - TABLES (54 VALUES), GRAPHS
APPARATUS
RUSSIAN

21 BROMLEY, L.A.
THERMAL CONDUCTIVITY OF GASES AT MODERATE PRESSURES
UNIVERSITY OF CALIFORNIA RADIATION LAB., BERKELEY, CALIFORNIA
REPT. NO. UCRL-1852, (1952) 37 P.

THERMAL CONDUCTIVITY, VISCOSITY, HEAT CAPACITY (V=CONSTANT),
SPECIFIC HEAT RATIO, PRANDTL NUMBER (100 TO 380 DEGREES K)
OXYGEN AND 37 OTHER GASES
THEORETICAL - EQUATIONS, GRAPHS
COMPILATION - TABLE (15 VALUES), DATA FROM 116, 117

22 BROMLEY, L. A. AND WILKE, C. R.
VISCOSITY BEHAVIOR OF GASES
IND. ENG. CHEM. VOL.43, 1641-8 (1951)

VISCOSITY (75 TO 1500 DEGREES K AND 1 TO 1500 ATM.)
OXYGEN AND 44 OTHER GASES
THEORETICAL - NOMOGRAPHS

23 BROWN, C., BERGER, A.W. AND HERSH, C.K.
PHASE DIAGRAM OF LIQUID OZONE-OXYGEN SYSTEM
J. CHEM. PHYS. VOL.23, 1340-3 (1955)

VAPOR PRESSURE FOR BINARY MIXTURE OZONE-OXYGEN (78 TO 93 DEGREES K
AND .0697 TO .21 ATM.)
EXPERIMENTAL - TABLE (37 VALUES), GRAPH

23A BROWN, C., HERSH, C.K. AND BERGER, A.W.
MAGNETIC SUSCEPTIBILITY OF LIQUID OZONE-OXYGEN MIXTURES
J. CHEM. PHYS. VOL.23, 103-8 (1955)

VAPOR PRESSURE FOR BINARY MIXTURE OZONE-OXYGEN (78 TO 90 DEGREES K
AND .0697 TO .21 ATM.), MAGNETIC SUSCEPTIBILITY (78 TO 90 DEGREES K)
EXPERIMENTAL - TABLE (60 VALUES), GRAPHS
APPARATUS

24 BULLE, F.
UBER DIE DAMPFDRUCKKURVE DES SAUERSTOFFS UND UBER EINE BESTIMMUNG
DER KRITSCHEN DATEN VON WASSERSTOFF
VAPOR PRESSURE CURVE OF OXYGEN AND A DETERMINATION OF THE CRITICAL
DATA FOR HYDROGEN
PHYSIK. Z. VOL. 14, 860-2 (1913)

VAPOR PRESSURE (90 TO 137 DEGREES K AND 1 TO 24 ATM.)
REVIEW - DATA FROM 73
GERMAN

25 BURTON, J.T. AND ZIEBLAND, H.
THE THERMAL CONDUCTIVITY OF LIQUID AND GASEOUS OXYGEN
EXPLOSIVES RESEARCH AND DEVELOPMENT ESTABLISHMENT (GT. BRIT.)
REPT. NO. 2/R/56, MINISTRY OF SUPPLY, ADELPHI, LONDON
ASTIA AD 90759 (1956)

THERMAL CONDUCTIVITY (80 TO 200 DEGREES K AND 1 TO 135 ATM.)
NITROGEN
EXPERIMENTAL - TABLES (71 VALUES), GRAPH
APPARATUS

26 CARDOSO, E.
CONTRIBUTION A L'ETUDE DU POINT CRITIQUE DE QUELQUES GAZ DIFFICILEMENT LIQUEFIABLES. AZOTE, OXYDE DE CARBONE, OXYGENE, METHANE
A CONTRIBUTION TO THE STUDY OF THE CRITICAL POINT OF SOME DIFFICULT GASES TO LIQUEFY - NITROGEN, CARBON MONOXIDE, OXYGEN AND METHANE
J. CHIM. PHYS. VOL.13, 312-50 (1916)

CRITICAL CONSTANTS
EXPERIMENTAL - TABLE (1 VALUE)
APPARATUS
FRENCH

27 CARDOSO, E.
DETERMINATION EXPERIMENTALE DES ELEMENTS CRITIQUES DE L'OXYGENE, DE L'AZOTE, DE L'OXYDE DE CARBONE ET DU METHANE
EXPERIMENTAL DETERMINATION OF THE CRITICAL CONSTANTS OF OXYGEN, NITROGEN, CARBON MONOXIDE AND METHANE
ARCH. SCI. PHYS. ET NAT. VOL.39, 400-2 (1915)

CRITICAL CONSTANTS
EXPERIMENTAL - TABLE (1 VALUE)
FRENCH

28 CATH, P.G.
ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XXIX. VAPOUR PRESSURES OF OXYGEN AND NITROGEN FOR OBTAINING FIXED POINTS ON THE TEMPERATURE SCALE BELOW 0 DEGREES C
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.152D (1918)
TRANSLATED FROM VERSLAG GEWONE VER. WISEN. NATUURK AFDEEL KON. AKAD. WET. AMSTERDAM VOL.27, 553-60 (1918)

VAPOR PRESSURE, BOILING POINT (62 TO 90 DEGREES K AND 0.01 TO 1 ATM.)
EXPERIMENTAL - TABLE (14 VALUES), EQUATION
APPARATUS

29 CATH, P.G. AND ONNES, H.K.
SUR LA MESURE DES TEMPERATURES TRES BASSES. XXX. COMPARIASON DES THERMOMETRES A HELIUM, A ARGON, A NEON, A OXYGENE ET A AZOTE AU THERMOMETRE A HYDROGENE. CORRECTIONS POUR RAMENER LES INDICATIONS DE CES THERMOMETRES A L'ECHELLE INTERNATIONALE KELVIN. LE DEUXIEME COEFFICIENT DU VIRIEL POUR L'HELIUM, L'ARGON, LE NEON, L'OXYGENE ET L'AZOTE AU-DESSOUS DE 0 DEGRE C

MEASUREMENT OF VERY LOW TEMPERATURES. XXX. COMPARISON OF HELIUM, NITROGEN, ARGON, OXYGEN AND NEON THERMOMETERS WITH THE HYDROGEN THERMOMETER. CORRECTIONS WHICH WILL REDUCE THE INDICATIONS OF THESE THERMOMETERS TO THE INTERNATIONAL SCALE OF KELVIN. THE SECOND VIRIAL COEFFICIENTS FOR HELIUM, ARGON, NEON, OXYGEN AND NITROGEN BELOW 0 DEGREES C
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.156A (1922)
REPRINTED FROM ARCH. NEERL. SCI. (III A) VOL.6, 1-30 (1922)

OXYGEN THERMOMETER CORRECTIONS, SECOND VIRIAL COEFFICIENT (54 TO 273 DEGREES K AND 50 ATM.)
EXPERIMENTAL - TABLES (40 VALUES), GRAPH, EQUATIONS
APPARATUS
FRENCH

30 CHAO, G.T.Y.
ISOTHERMAL COMPRESSIBILITY OF LIQUID OXYGEN AND RP-1
J. AM. ROCKET SOC. VOL.29, NO.3, 199-203 (1959)

DENSITY, COMPRESSIBILITY, HEAT CAPACITY (P=CONSTANT) (60.5 TO 90 DEGREES K AND 1 ATM.)
THEORETICAL - TABLES (7 VALUES), GRAPHS, EQUATIONS
COMPILATION - DATA FROM 9, 75

31 CHELTON, D.B. AND MANN, D.B.
CRYOGENIC DATA BOOK
UNIVERSITY OF CALIFORNIA RADIATION LAB., BERKELEY, CALIFORNIA
REPT. NO. UCRL 3421, (1956) 116 P.

HEAT OF VAPORIZATION, DENSITY, THERMAL CONDUCTIVITY
BOOK

32 CLAITOR, L.C.
THE SECOND VIRIAL COEFFICIENT OF THE MAJOR ATMOSPHERIC GASES AT LOW TEMPERATURES
AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS, COLLEGE STATION, TEXAS
MASTER'S THESIS (1948) 83 P.

EQUATION OF STATE, SECOND VIRIAL COEFFICIENT (90 TO 459 DEGREES K) VELOCITY OF SOUND (74 TO 164 DEGREES K AND 0 TO 0.9 ATM.), PV PRODUCT, REDUCED DENSITY (121 TO 293 DEGREES K AND 3 TO 60 ATM.)
OXYGEN, NITROGEN, ARGON, AIR
THEORETICAL - EQUATION, GRAPH
COMPILATION - DATA FROM 126, 156, 163, 211

33 CLAITOR, L.C. AND CRAWFORD, D.B.
THERMODYNAMIC PROPERTIES OF OXYGEN, NITROGEN AND AIR AT LOW TEMPERATURES
TRANS. AM. SOC. MECH. ENGRS. VOL.71, 885-95 (1949)

P-V-T, SECOND AND THIRD VIRIAL COEFFICIENTS, SPECIFIC HEAT (P=ZERO AND V=CONSTANT), VELOCITY OF SOUND, CRITICAL CONSTANTS, PHASE TRANSITION HEATS, REFERENCE MADE TO A T-S CHART (120 TO 300 DEGREES K AND 20 TO 62 ATM.)
COMPILATION - DATA FROM 2, 118, 126, 133, 150, 156, 163, 209, 211

33A CLARK, A.M., DIN, F. AND ROBB, J.
THE LIQUID-VAPOUR EQUILIBRIUM OF THE BINARY SYSTEM ARGON-OXYGEN
PROC. ROY. SOC. (LONDON) VOL.A221, 517-34 (1954)

VAPOR PRESSURE FOR BINARY MIXTURE ARGON-OXYGEN (85 TO 112 DEGREES K AND 1 TO 7 ATM.)
EXPERIMENTAL - TABLES (55 VALUES), GRAPHS
APPARATUS

34 CLUSIUS, K.
UBER DIE SPEZIFISCHE WARME EINIGER KONDENSIERTER GASE ZWISCHEN
10 GRAD ABS. UND IHREM TRIPELPUNKT
ON THE SPECIFIC HEATS OF SOME CONDENSED GASES BETWEEN TEN DEGREES
KELVIN AND THEIR TRIPLE POINTS
Z. PHYSIK. CHEM. (LEIPZIG) VOL.B3, 41-79 (1929)

SPECIFIC HEAT (P=CONSTANT AND V=CONSTANT) (10.19 TO 72.8 DEGREES
KELVIN AND 1 ATM.), PHASE TRANSITION HEATS (22 TO 48 DEGREES K)
OXYGEN, NITROGEN, CARBON MONOXIDE, METHANE, HYDROGEN CHLORIDE
EXPERIMENTAL - TABLES (65 VALUES), GRAPH
APPARATUS
GERMAN

35 CLUSIUS, K. AND KONNERTZ, F.
ERGEBNISSE DER TIEFTEMPERATURFORSCHUNG. VI. KALORIMETRISCHE
MESSUNGEN DER VERDAMPFUNGSWARME DES SAUERSTOFFS BEI NORMALEM
DRUCK SOWIE DES AETHYLENS UND PROPYLENS UNTERHALB UND OBERHALB
VOM ATMOSPHARENDRUCK
RESULTS OF LOW TEMPERATURE INVESTIGATION. VI. CALORIMETRIC
MEASUREMENTS OF THE LATENT HEAT OF VAPORIZATION OF OXYGEN
AT NORMAL PRESSURE AS WELL AS ETHYLENE AND PROPYLENE BELOW AND
ABOVE ATMOSPHERIC PRESSURE
Z. NATURFORSCH. PT. A, VOL.4A, NO.2, 117-24 (1949)

PHASE TRANSITION HEAT (90.19 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (1 VALUE)
APPARATUS
GERMAN

36 CODEGONE, C.
SULLA VISCOSITA DINAMICA DEI GAS E DEI VAPORI
DYNAMIC VISCOSITY OF GASES AND VAPORS
ATTI. ACCAD. SCI. TORINO CLASSE SCI. FIS. MAT. E NAT. VOL.86,
126-8 (1951 - 2)

VISCOSITY
OXYGEN AND 14 GASES
THEORETICAL - GRAPH, EQUATIONS
ITALIAN

37 CODEGONE, C.
LES NOMBRES DE PRANDTL DES FLUIDES FRIGORIFIQUES
THE PRANDTL NUMBER OF REFRIGERANTS
BULL. INST. INTERN. FROID VOL.33, 61-6 (1953)

ENTHALPY, PRANDTL NUMBER (154 DEGREES K AND 1 ATM.)
OXYGEN AND 22 GASES
THEORETICAL - TABLE (1 VALUE), GRAPHS, EQUATIONS
FRENCH

38 CODEGONE, C.
LA VISCOSITA DEI GAS E DEI VAPORI
VISCOSITY OF GASES AND VAPORS
RICERCA SCI. VOL.22, 1416-9 (1952)

VISCOSITY, CRITICAL CONSTANTS
OXYGEN AND 18 OTHER GASES
COMPILATION - TABLE (4 VALUES), GRAPHS
ITALIAN
CODED FROM ABSTRACT

38A COOK, S.R.
ON THE VELOCITY OF SOUND IN GASES, AND THE RATIO OF THE SPECIFIC HEATS,
AT THE TEMPERATURE OF LIQUID AIR
PHYS. REV. VOL.23, 212-37 (1906)

DENSITY (84 TO 90 DEGREES K AND .45 TO .95 ATM), VELOCITY OF SOUND
(89 TO 293 DEGREES K AND .45 TO .95 ATM.)
OXYGEN, AIR
EXPERIMENTAL - TABLES (30 VALUES), GRAPHS, EQUATIONS
APPARATUS

38B CORNER, J.
THE CONSTANTS OF THE BEATTIE-BRIDGEMAN EQUATION
TRANS. FARADAY SOC. VOL.37, 358-61 (1941)

BEATTIE-BRIDGEMAN EQUATION CONSTANTS
OXYGEN, HELIUM, NEON, ARGON, NITROGEN, CARBON MONOXIDE, HYDROGEN,
CARBON DIOXIDE, METHANE
THEORETICAL - TABLE (1 VALUE)

39 DANA, L.I.
THE LATENT HEAT OF VAPORIZATION OF LIQUID OXYGEN-NITROGEN MIXTURES
PROC. AM. ACAD. ARTS AND SCI. VOL.60, NO.4, 241-67 (1927)

PHASE TRANSITION HEATS FOR THE BINARY SYSTEM OXYGEN-NITROGEN (80 TO
90 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (48 VALUES), GRAPH
THEORETICAL - EQUATIONS
APPARATUS

40 DASCALESCU, A.
UTILIZAREA DIAGRAMELOR TERMODINAMICE IN STUDIUL PRODUCERII
OXIGENULUI INDUSTRIAL
THE USE OF THERMODYNAMIC DIAGRAMS IN THE STUDY OF INDUSTRIAL
OXYGEN PRODUCTION
REV. CHIM. BUCHAREST VOL.7, NO.1, 12-30 (1956)
TRANSLATION AVAILABLE FROM
ASSOCIATED TECHNICAL SERVICES, INC., P. O. BOX 271, EAST ORANGE,
NEW JERSEY

DENSITY, SPECIFIC HEAT (P=CONSTANT) (V=CONSTANT), BOILING POINT,
MELTING POINT, CRITICAL CONSTANTS, ENTROPY, ENTHALPY, PHASE
TRANSITION HEATS, THERMAL CONDUCTIVITY, VISCOSITY (SINGLE VALUES
ONLY)
OXYGEN, AIR, NITROGEN
SURVEY
RUMANIAN

41 DAVIS, D.S.
NOMOGRAPHS FOR THERMAL CONDUCTIVITIES OF GASES AND VAPORS
IND. ENG. CHEM. VOL.33, 675-8 (1941)

THERMAL CONDUCTIVITY (88 TO 480 DEGREES K)
OXYGEN AND 32 GASES
COMPILATION - NOMOGRAPH, DATA FROM 220

41A DE BOCK, A.
METINGEN OVER DE VOORTPLANTINGSSNELHEID VON HET GELUID IN
VLOEISTOFFEN BIJ LAGE TEMPERATUREN
MEASUREMENT OF THE TRANSMISSION OF SOUND IN LIQUIDS AT LOW TEMPERATURES
VERHANDEL. KONINKL. VLAAM. ACAD. WETENSCHAP. VOL.11, 1-48 (1949)

VELOCITY OF SOUND (73 TO 90 DEGREES K)
OXYGEN AND 5 ORGANIC COMPOUNDS
EXPERIMENTAL - TABLES (8 VALUES), GRAPHS
THEORETICAL
APPARATUS
DUTCH

42 DEITZ, V.
ZERO-POINT ENERGY OF MOLECULAR CRYSTALS
J. CHEM. PHYS. VOL.2, 296 (1934)

PHASE TRANSITION HEATS, ZERO-POINT ENERGY (0 DEGREE K AND 1 ATM.)
OXYGEN AND 10 GASES
THEORETICAL - TABLE, EQUATIONS

42A DELAPLACE, R.
PRESSION DE QUELQUES GAZ PERMANENTS AUX BASSES TEMPERATURES ET EN
PRESENCE DE GEL DE SILICA
PRESSURES OF SEVERAL PERMANENT GASES AT LOW TEMPERATURES IN THE
PRESENCE OF SILICA GEL
COMPT. REND. VOL.205, 664-5 (1937)

P-V-T (91 TO 109 DEGREES K AND 1 TO 95 ATM.)
OXYGEN, NITROGEN, CARBON MONOXIDE, METHANE
EXPERIMENTAL - TABLE (10 VALUES)
FRENCH

42B DEWAR, J.
LOW TEMPERATURE INVESTIGATIONS
PROC. ROY. INST. GT. BRIT. VOL.17, 418-26 (1902)

DENSITY (20 TO 90 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, AND 26 COMPOUNDS
EXPERIMENTAL - TABLES (3 VALUES)

43 DEWAR, J.
ON THE LIQUEFACTION OF OXYGEN AND THE CRITICAL VOLUME OF FLUIDS
PHIL. MAG. VOL.18, 210-6 (1884)

CRITICAL CONSTANTS
OXYGEN, NITROGEN, HYDROGEN AND 21 COMPOUNDS
EXPERIMENTAL - TABLE (1 VALUE)
APPARATUS

44 DEWAR, J.
PHYSICAL CONSTANTS AT LOW TEMPERATURES. I. THE DENSITIES OF SOLID OXYGEN, NITROGEN, HYDROGEN, ETC.
PROC. ROY. SOC. (LONDON) VOL.A73, 251-61 (1904)

DENSITY (20 TO 90 DEGREES K AND 1 ATM.)
ARGON, CARBON MONOXIDE
EXPERIMENTAL - TABLES (5 VALUES), EQUATIONS
THEORETICAL - EQUATIONS

45 DEWAR, J.
PRODUCTION OF SOLID OXYGEN BY THE EVAPORATION OF THE LIQUID
PROC. ROY. SOC. (LONDON) VOL.A85, 589-97 (1911)

TRIPLE POINT
EXPERIMENTAL - TABLE (1 VALUE)
APPARATUS

46 DEWAR, J.
THE SPECIFIC VOLUMES OF OXYGEN AND NITROGEN VAPOR AT THE BOILING POINT OF OXYGEN
NATURE VOL.65, 382 (1902)

DENSITY (90.5 DEGREES K AND 0.3 TO 1 ATM.)
EXPERIMENTAL - TABLE (2 VALUES)
APPARATUS

47 DEWAR, J.
STUDIES WITH THE LIQUID HYDROGEN AND AIR CALORIMETERS. I. SPECIFIC HEATS
PROC. ROY. SOC. (LONDON) VOL.A76, 325-40 (1905)

PHASE TRANSITION HEATS (90 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, AIR
EXPERIMENTAL - TABLES (1 VALUE)

48 DIN, F.
THE LIQUID-VAPOUR EQUILIBRIUM OF THE BINARY SYSTEM ARGON-OXYGEN
BULL. INST. INTERN. FROID VOL.33, 17-30 (1953)

VAPOR PRESSURE FOR BINARY SYSTEM OF ARGON-OXYGEN (90 TO 110 DEGREES K AND 1 TO 7 ATM.)
EXPERIMENTAL - TABLES (11 VALUES), GRAPHS
APPARATUS

49 DIN, F., GOLDMAN, K. AND MONROE, A.G.
SOLID-LIQUID EQUILIBRIUMS OF THE SYSTEMS ARGON-NITROGEN AND ARGON-OXYGEN
BULL. INST. INTERN. FROID VOL.35, NO.4, 1 (1955)

SOLID PHASE AND SOLID-LIQUID PHASE EQUILIBRIA OF THE BINARY SYSTEM ARGON-OXYGEN
EXPERIMENTAL

50 DODGE, B.F. AND DAVIS, H.N.
VAPOR PRESSURE OF LIQUID OXYGEN AND NITROGEN
J. AM. CHEM. SOC. VOL.49, 610-20 (1927)

VAPOR PRESSURE (77 TO 134 DEGREES K AND 0.2 TO 21 ATM.)
EXPERIMENTAL - TABLE (43 VALUES), GRAPHS, EQUATIONS

51 DODGE, B.F. AND DUNBAR, A.K.
AN INVESTIGATION OF THE COEXISTING LIQUID AND VAPOR PHASES OF
SOLUTIONS OF OXYGEN AND NITROGEN
J. AM. CHEM. SOC. VOL.49, 591-610 (1927)

VAPOR PRESSURE OF BINARY SYSTEM OXYGEN-NITROGEN (77 TO 125 DEGREES K
AND 0.6 TO 30 ATM.)
EXPERIMENTAL - TABLES (77 VALUES), GRAPHS, EQUATIONS
APPARATUS

52 DRUGMAN, J. AND RAMSAY, W.
SPECIFIC GRAVITIES OF THE HALOGENS AT THEIR BOILING POINTS,
AND OF OXYGEN AND NITROGEN
J. CHEM. SOC. VOL.77, 1228-33 (1900)

DENSITY (90 DEGREES K AND NEAR 1 ATM)
EXPERIMENTAL - TABLE (2 VALUES)
APPARATUS

53 DUCLAUX, J.
THEORIE DES GAZ ET EQUATION D'ETAT. IX.
THE THEORY OF GASES AND THE EQUATION OF STATE. IX.
J. PHYS. RADIUM VOL.11, 235-41 (1950)

EQUATION OF STATE, COMPRESSIBILITY (130 TO 150 DEGREES K AND 22.30
TO 52.44 ATM.)
THEORETICAL - TABLES (35 VALUES), GRAPHS, EQUATIONS
FRENCH

54 DUCLAUX, J.
THEORIE DES GAZ. XV. ETATS CORRESPONDANTS ARGON, OXYGENE, NEON
THEORY OF GASES. XV. CORRESPONDING STATES OF ARGON, OXYGEN
AND NEON
J. CHIM. PHYS. VOL.50, 113-6 (1953)

COMPRESSIBILITY, CORRESPONDING STATES (173 TO 273 DEGREES K AND 70
TO 100 ATM.)
THEORETICAL - GRAPH
FRENCH

55 DUCLAUX, J.
THEORIE DES GAZ REELS XIII. COURBE DE CONDENSATION ET DONNEES CRITIQUES
THEORY OF REAL GASES XIII. CONDENSATION CURVE AND CRITICAL CONSTANTS
J. CHIM. PHYS. VOL.49, 522-6 (1952)

P-V-T (156 TO 293 DEGREES K AND 1 TO 1000 ATM.), CRITICAL POINT
OXYGEN, NITROGEN, ARGON
THEORETICAL - TABLES (61 VALUES), GRAPHS
COMPILATION - DATA FROM 163, 107, 156
FRENCH

56 DUTTA, A.
BOILING POINT AND VISCOSITY OF GASES
NATURE VOL.152, 445-6 (1943)

COMPRESSIBILITY, BOILING POINT (NORMAL), VISCOSITY
OXYGEN, NITROGEN, HYDROGEN, ARGON, CARBON DIOXIDE, CARBON
MONOXIDE, AIR AND BENZENE
THEORETICAL - GRAPH, EQUATIONS

57 ELLENWOOD, F.O., KULIK, N. AND GAY, N.R.
THE SPECIFIC HEATS OF CERTAIN GASES OVER WIDE RANGES OF PRESSURES
AND TEMPERATURES. AIR, CARBON MONOXIDE, CARBON DIOXIDE, METHANE,
ETHYLENE, HYDROGEN, NITROGEN, AND OXYGEN
CORNELL UNIV. EXPT. STA. BULL. NO.30, (OCTOBER 1942)
CORNELL UNIVERSITY, COLLEGE OF ENGINEERING, ITHACA, N.Y.

SPECIFIC HEAT (P=CONSTANT)(V=CONSTANT), CONSTANTS FOR BEATTIE-BRIDGEMAN EQUATION OF STATE
THEORETICAL - EQUATIONS, GRAPHS
COMPILATION - DATA FROM 118

58 ESTREICHER, T.
ON THE PRESSURES OF SATURATION OF OXYGEN
PHIL. MAG. VOL.40, 454-63 (1895)

VAPOR PRESSURE (62 TO 90 DEGREES K AND 0.01 TO 1 ATM.)
EXPERIMENTAL - TABLES (83 VALUES)
THEORETICAL - EQUATION
APPARATUS

59 EUCKEN, A.
UBER DAS WARMELEITVERMOGEN, DIE SPEZIFISCHE WARME UND DIE INNERE
REIBUNG DER GASE
CONCERNING THE THERMAL CONDUCTIVITY, SPECIFIC HEAT AND VISCOSITY
OF GASES
PHYSIK. Z. VOL.14, 324-32 (1913)

THERMAL CONDUCTIVITY, SPECIFIC HEAT (V=CONSTANT), VISCOSITY (81 TO
273 DEGREES K AND 1 ATM.), PRANDTL NUMBER
OXYGEN, 15 OTHER GASES
EXPERIMENTAL - TABLE (4 VALUES), EQUATIONS
GERMAN

60 EUCKEN, A.
UBER DIE TEMPERATURABHANGIGKEIT DER WARMELEITFAHIGKEIT EINIGER GASE
CONCERNING THE TEMPERATURE DEPENDENCE OF THERMAL CONDUCTIVITY OF
SEVERAL GASES
PHYSIK. Z. VOL.12, 1101-7 (1911)

THERMAL CONDUCTIVITY (90.4 TO 373 DEGREES K AND 0.05 TO 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, AIR, CARBON DIOXIDE, HELIUM, ARGON
EXPERIMENTAL - TABLES (20 VALUES)
APPARATUS
GERMAN

61 EUCKEN, A.
UBER DAS THERMISCHE VERHALTEN EINIGER KOMPRIMIERTER UND
KONDENSIERTER GASE BEI TIEFEN TEMPERATUREN
ON THE THERMAL BEHAVIOR OF SOME COMPRESSED AND CONDENSED GASES AT
LOW TEMPERATURES
VERHANDL. DEUT. PHYSIK. GES. VOL.18, 4-17 (1916)

SPECIFIC HEAT (P=CONSTANT AND V=CONSTANT) (17 TO 84 DEGREES K AND
1 ATM.), MELTING POINT, PHASE TRANSITION HEATS (22 TO 48 DEGREES K)
OXYGEN, NITROGEN, HYDROGEN, ARGON, CARBON MONOXIDE
EXPERIMENTAL - TABLE (41 VALUES), EQUATIONS
APPARATUS
GERMAN

62 EUCKEN, A., KARWAT, E. AND FRIED, F.
THE CONSTANT I OF THE THERMODYNAMIC VAPOR-PRESSURE EQUATION FOR
POLYATOMIC MOLECULES
Z. PHYSIK VOL.29, 1-35 (1924)

VAPOR PRESSURE, HEAT OF VAPORIZATION, ENTROPY, SPECIFIC HEAT
OXYGEN AND 13 OTHER GASES
COMPILATION - TABLES
CODED FROM ABSTRACT

62A FASTOVSKII, V.G. AND KRESTINSKII, YU. A.
SOLUBILITY OF SOLID METHANE IN LIQUID NITROGEN AND OXYGEN
J. PHYS. CHEM. (U.S.S.R.) VOL.15, 525-31 (1941)
TRANSLATION AVAILABLE FROM CRYOGENIC DATA CENTER, NATIONAL BUREAU OF
STANDARDS, BOULDER, COLORADO

SOLUBILITY OF BINARY MIXTURE OXYGEN-METHANE (69 TO 74 DEGREES K)
EXPERIMENTAL - TABLES (5 VALUES), GRAPHS, EQUATIONS
APPARATUS
RUSSIAN

62B FASTOVSKII, V. AND KRESTINSKII, YU. A.
SOLUBILITY OF ARGON IN LIQUID OXYGEN
J. PHYS. CHEM. U.S.S.R. VOL.16, 148-51 (1952)
TRANSLATION AVAILABLE FROM CRYOGENIC DATA CENTER, NATIONAL BUREAU OF
STANDARDS, BOULDER, COLORADO

SOLUBILITY OF BINARY MIXTURE OXYGEN-ARGON (70 TO 82 DEGREES K)
EXPERIMENTAL - TABLE (5 VALUES), EQUATION, GRAPH
RUSSIAN

62C FASTOWSKII, V.G. AND PETROVSKII, Y.V.
INVESTIGATIONS OF EQUILIBRIUM OF LIQUID-VAPOR IN THE SYSTEM OF
ARGON-OXYGEN
ZHUR. FIZ. KHIM. VOL.29, NO.7, 1311-7 (1955)

VAPOR PRESSURE FOR BINARY SYSTEM OXYGEN-ARGON (89.3 TO 96.4 DEGREES K
AND 1.2 TO 2 ATM.)
EXPERIMENTAL - TABLES (24 VALUES), GRAPHS
APPARATUS
RUSSIAN

62D FEDOROVA, M.F.
SOLUBILITY OF ACETYLENE AND CARBON DIOXIDE IN LIQUID NITROGEN AND OXYGEN
ZHUR. FIZ. KHIM. VOL.14, 422-6 (1940)

SOLUBILITY OF BINARY MIXTURES OXYGEN-ACETYLENE AND OXYGEN-CARBON DIOXIDE (65 TO 98 DEGREES K)
EXPERIMENTAL - TABLE (13 VALUES), GRAPH
APPARATUS
RUSSIAN

62E FORTIER, A.
CONTRIBUTION A L'ETUDE DE LA VISCOSITE DE L'AIR ET DES GAZ
CONTRIBUTION ON THE VISCOSITY OF AIR AND OF GASES
PUBLS. SCI. ET TECH. MINISTERE AIR FRANCE NO. 111, 1-75 (1937)

VISCOSITY (90 TO 273 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN
EXPERIMENTAL - TABLES (17 VALUES), GRAPHS
THEORETICAL - EQUATIONS
APPARATUS
FRENCH

63 FRANCK, E.U.
ZUR TEMPERATURABHANGIGKEIT DER WARMELEITFAHIGKEIT EINIGER GASE
TEMPERATURE DEPENDENCE OF THE THERMAL CONDUCTIVITY OF SEVERAL GASES
Z. ELEKTROCHEM. VOL.55, 636-43 (1951)

THERMAL CONDUCTIVITY (100 TO 808 DEGREES K AND 0.1 TO 0.5 ATM.)
OXYGEN AND 10 GASES
EXPERIMENTAL - TABLES (15 VALUES), EQUATIONS
GERMAN

64 FRANCK, E.U.
WARMELEITUNG IN HOCHVERDICHTETEN GASEN
THERMAL CONDUCTION IN HIGHLY COMPRESSED GASES
CHEM. INGR. TECH. VOL.25, 238-44 (1953)

THERMAL CONDUCTIVITY (73 TO 573 DEGREES K AND 0 TO 500 ATM.)
OXYGEN AND 9 GASES
EXPERIMENTAL - GRAPH, EQUATIONS
GERMAN

65 FRANK, A. AND CLUSIUS, K.
PRAZISIONSMESSUNGEN DER VERDAMPFUNGSWARME DER GASE SAUERSTOFF, SCHWEFELWASSERSTOFF, PHOSPHORWASSERSTOFF, ARGON, KOHLENOXYSULFID, METHAN, UND MONODEUTERIOMETHAN
PRECISION MEASUREMENTS OF THE HEAT OF VAPORIZATION OF THE GASES OXYGEN, HYDROGEN SULFIDE, ARGON, CARBONYL SULFIDE, METHANE AND MONODEUTERIOMETHANE
Z. PHYSIK. CHEM. (LEIPZIG) VOL.B42, 395-421 (1939)

VAPOR PRESSURE, PHASE TRANSITION HEATS (87 DEGREES K AND 0.8 ATM.)
EXPERIMENTAL - TABLE (20 VALUES), EQUATION
APPARATUS
GERMAN

65A FRENKEL, J.I. AND GUBANOV, A.
TEMPERATURE DEPENDENCE OF THE SURFACE TENSION OF AMORPHOUS BODIES
ZHUR. EKSPTL. I TEORET. FIZ. VOL.16, 435-50 (1946)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS COMPLETED AND THE TRANSLATION OF THE PAPER COULD NOT BE OBTAINED IN TIME TO INCLUDE A LISTING OF THE CONTENTS.
RUSSIAN

66 FRICKE, E.F.
COOLING EQUIPMENT DESIGN STUDY - THE THERMODYNAMICS OF OXYGEN, HYDRAZINE AND FLUORINE
REPUBLIC AVIATION CORPORATION REPORT NO.F-5028-101, FARMINGDALE, L.I., NEW YORK
ASTIA ATI 121-150

P-V-T, SPECIFIC HEAT (P=CONSTANT AND V=CONSTANT), VAPOR PRESSURE, PHASE TRANSITION HEATS, ENTROPY, ENTHALPY, HELMHOLTZ FUNCTION, INTERNAL ENERGY
THEORETICAL - TABLES, EQUATION

67 FURUKAWA, G.T. AND MC COSKEY, R.E.
CONDENSATION LINE OF AIR AND HEATS OF VAPORIZATION OF OXYGEN AND NITROGEN
NATL. ADVISORY COMM. AERONAUT. TECH. NOTE NO. 2969 (1953)

PHASE TRANSITION HEATS (68 TO 91 DEGREES K AND 0.05 TO 1 ATM.)
EXPERIMENTAL - TABLES (13 VALUES), GRAPHS

68 GAFFEE, D.I. AND MONROE, A.G.
THE HEAT TRANSFER COEFFICIENT TO BOILING OXYGEN
PROC. INTERN. CONGR. REFRIG. 9TH CONGR. PARIS VOL.1, 1011-23 (1955)

HEAT TRANSFER COEFFICIENT (100 TO 350 DEGREES K AND 68 AND 155 ATM.)
EXPERIMENTAL - GRAPHS, EQUATIONS
APPARATUS

69 GALKOV, G.I. AND GERF, S.F.
VISCOSITY OF LIQUEFIED PURE GASES AND THEIR MIXTURES. II.
ZHUR. TEKH. FIZ. VOL.11, 613-6 (1941)

VISCOSITY (64 TO 90 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, ETHANE, PROPANE, PROPYLENE,
EXPERIMENTAL - TABLES (11 VALUES), GRAPHS
RUSSIAN

70 GALT, J.K.
SOUND ABSORPTION AND VELOCITY IN LIQUEFIED ARGON, OXYGEN, NITROGEN, AND HYDROGEN
J. CHEM. PHYS. VOL.16, 505-7 (1948)

VELOCITY OF SOUND, ABSORPTION COEFFICIENT (60 TO 87 DEGREES K)
EXPERIMENTAL - TABLE (6 VALUES)
APPARATUS

71 GERF, S.F. AND GALKOV, G.I.
VISCOSITY OF LIQUEFIED PURE GASES AND THEIR MIXTURES. III.
ZHUR. TEKH. FIZ. VOL.11, 801-8 (1941)

VISCOSITY (60 TO 300 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, METHANE, ETHANE, ETHYLENE
EXPERIMENTAL - GRAPH
APPARATUS
RUSSIAN

72 GERMANN, A.F.O.
THE DENSITY OF OXYGEN
J. PHYS. CHEM. VOL.19, 437-77 (1915)

DENSITY (273 DEGREES K)
EXPERIMENTAL - TABLES (1 VALUE)
APPARATUS

73 GERMANN, F.E.E.
EINE BESTIMMUNG DER DAMPFDRUCK- UND DICHTEKURVEN DES SAUERSTOFFS UND KONSTRUKTION EINES APPARATES ZUR BESTIMMUNG KRITISCHER DATEN
A DETERMINATION OF VAPOR PRESSURE AND DENSITY CURVES OF OXYGEN AND THE CONSTRUCTION OF AN APPARATUS FOR THE DETERMINATION OF CRITICAL DATA
PHYSIK. Z. VOL.14, 857-60 (1913)

DENSITY, VAPOR PRESSURE (90 TO 137 DEGREES K AND 1 TO 25 ATM.)
EXPERIMENTAL - TABLES (40 VALUES), EQUATION
APPARATUS
GERMAN

74 GIAUQUE, W.F.
THE CALCULATION OF FREE ENERGY FROM SPECTROSCOPIC DATA
J. AM. CHEM. SOC. VOL.52, 4808-15 (1930)

ENTROPY, FREE ENERGY (GIBBS FUNCTION)
THEORETICAL - EQUATION

75 GIAUQUE, W.F. AND JOHNSTON, H.L.
THE HEAT CAPACITY OF OXYGEN FROM 12 DEGREES K TO ITS BOILING POINT AND ITS HEAT OF VAPORIZATION, THE ENTROPY FROM SPECTROSCOPIC DATA
J. AM. CHEM. SOC. VOL.51, 2300-21 (1929)

HEAT CAPACITY (P=CONSTANT), ENTROPY (12 TO 90 DEGREES K AND 1 ATM.)
BOILING POINT, MELTING POINT, TRANSITION POINTS, LATENT HEATS
EXPERIMENTAL - TABLES (92 VALUES), GRAPHS
THEORETICAL - TABLE (2 VALUES), EQUATIONS
APPARATUS

76 GIAUQUE, W.F., JOHNSTON, H.L. AND KELLEY, K.K.
HYDROGEN GAS THERMOMETER COMPARED WITH THE OXYGEN AND HYDROGEN VAPOR PRESSURE THERMOMETERS BY MEANS OF A COPPER - CONSTANTAN THERMOCOUPLE
J. AM. CHEM. SOC. VOL.49, 2367-72 (1927)

VAPOR PRESSURE (70 TO 90 DEGREES K AND 0.1 TO 1 ATM.)
EXPERIMENTAL - TABLE (5 VALUES), EQUATION
APPARATUS

77 GOFF, J.A., GRATCH, S. AND VAN VOORHIS, S.W.
ZERO - PRESSURE THERMODYNAMIC PROPERTIES OF SOME MONATOMIC GASES
TRANS. AMER. SOC. MECH. ENGRS. VOL.72, 725-39 (1950)

SPECIFIC HEAT (P=CONSTANT), ENTROPY, ENTHALPY (56 TO 2800 DEGREES K AND 1 ATM.)
OXYGEN AND 10 GASES
THEORETICAL - TABLES, EQUATIONS

78 GORDON, S. AND MC BRIDE, B.J.
THEORETICAL PERFORMANCE OF LIQUID HYDROGEN WITH LIQUID OXYGEN AS A ROCKET PROPELLANT
NATL. AERONAUT. SPACE ADMIN. MEMORANDUM 5-21-59E (1959)
ASTIA AD-219-883

THERMAL CONDUCTIVITY, VISCOSITY, SPECIFIC HEAT (P=CONSTANT), ENTHALPY (114 TO 3534 DEGREES K AND 4 TO 40 ATM.), MELTING POINT, BOILING POINT, DENSITY, MOLECULAR WEIGHT, PHASE TRANSITION HEATS
THEORETICAL - TABLES, GRAPHS
COMPILATION - DATA FROM 176, 220

79 GORDON, S. AND WILKINS, R.L.
THEORETICAL MAXIMUM PERFORMANCE OF LIQUID FLUORINE-LIQUID OXYGEN MIXTURES WITH JP-4 FUEL AS ROCKET PROPELLANTS
NATL. ADVISORY COMM. AERONAUT. RESEARCH MEMO. RM E54 H09 (OCTOBER 1954)

ENTHALPY, (90 TO 300 DEGREES K AND 1 ATM.), ENTHALPY OF FUSION, MOLECULAR WEIGHT, DENSITY, FREEZING POINT (MELTING POINT), BOILING POINT
COMPILATION - DATA FROM 176, 220

80 GRATCH, S.
VAPOR PRESSURE, SPECIFIC VOLUME, P-V-T DATA FOR VARIOUS GASES
TRANS. AM. SOC. MECH. ENGRS. VOL.70, 631-40 (1948)

COMPRESSIBILITY, P-V-T, VAPOR PRESSURE, BOILING POINT, EQUATION OF STATE, VIRIAL COEFFICIENTS, CRITICAL POINT, TRIPLE POINT
LITERATURE SURVEY

81 GRILLY, E.R.
RELATIONSHIPS BETWEEN TRANSPORT PROPERTIES OF GASES
AM. J. PHYS. VOL.20, 447-50 (1952)

SPECIFIC HEAT (P=CONSTANT), THERMAL CONDUCTIVITY, VISCOSITY (80 TO 380 DEGREES K AND 1 ATM.)
OXYGEN, HYDROGEN, CARGON DIOXIDE, CARBON MONOXIDE, NITROUS OXIDE, NITRIC OXIDE, HELIUM, METHANE
THEORETICAL - GRAPHS, EQUATIONS

82 GRUNMACH, L.
EXPERIMENTELLE BESTIMMUNG DER OBERFLACHENSPANNUNG VON VERFLUSSIGTEM SAUERSTOFF UND VERFLUSSIGTEM STICKSTOFF
EXPERIMENTAL DETERMINATION OF THE SURFACE TENSION OF LIQUID OXYGEN AND LIQUID NITROGEN
PHYSIK. Z. VOL.7, 740-4 (1906)

SURFACE TENSION OF BINARY MIXTURE NITROGEN-OXYGEN (91 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (4 VALUES), GRAPHS
APPARATUS
GERMAN

83 GUGGENHEIM, E.A.
THE PRINCIPLE OF CORRESPONDING STATES
J. CHEM. PHYS. VOL.13, 253-61 (1945)

DENSITY, SECOND VIRIAL COEFFICIENT, COEFFICIENT OF THERMAL EXPANSION, HEAT CAPACITY (P=CONSTANT), TRIPLE POINT, CRITICAL CONSTANTS, VAPOR PRESSURE, ENTROPY, SURFACE TENSION, BOYLE POINT
OXYGEN, NITROGEN, NEON, ARGON, CARBON MONOXIDE, METHANE, XENON, KRYPTON, IDEAL GAS
THEORETICAL - TABLE (9 VALUES), GRAPH, EQUATIONS

83A GUGGENHEIM, E.A. AND MC GLASHAN, M.L.
CORRESPONDING STATES IN MIXTURES OF SLIGHTLY IMPERFECT GASES
PROC. ROY. SOC. (LONDON) VOL.A206, 448-63 (1951)

SECOND VIRIAL COEFFICIENT, EQUATION OF STATE FOR BINARY SYSTEM OXYGEN-NITROGEN (154 TO 2000 DEGREES K)
OXYGEN-NITROGEN, NITROGEN-HYDROGEN, ARGON-HYDROGEN, HYDROGEN-CARBON MONOXIDE, METHANE-ETHANE, METHANE-N-BUTANE
THEORETICAL - GRAPH
COMPILATION - DATA FROM 107

84 HALL, N.A. AND IBELE, W.E.
TABULATION OF IMPERFECT GAS PROPERTIES FOR AIR, NITROGEN AND OXYGEN
TRANS. AM. SOC. MECH. ENGRS. VOL.76, 1039-56 (1954)

SECOND AND THIRD VIRIAL COEFFICIENTS, COMPRESSIBILITY FACTOR (56 TO 2800 DEGREES K)
THEORETICAL - TABLES, EQUATIONS

85 HALL, N.A. AND IBELE, W.E.
THERMODYNAMIC PROPERTIES OF AIR, NITROGEN AND OXYGEN AS IMPERFECT GASES
UNIV. MINN. INST. TECHNOL. ENG. EXPT. STA. TECH. PAPER NO.85 (1951)
ST. PAUL, MINN.
ASTIA AD 42301, 157 P. (1951)

ENTROPY, ENTHALPY, VELOCITY OF SOUND, HEAT CAPACITY (V=CONSTANT) (P=CONSTANT), COMPRESSIBILITY FACTOR, P-V-T, (55 TO 2800 DEGREES K AND 0.05915 TO 1173.7 ATM.), SECOND AND THIRD VIRIAL COEFFICIENTS (55 TO 2800 DEGREES K)
ARGON, CARBON DIOXIDE
THEORETICAL - TABLES, EQUATIONS, GRAPHS
COMPILATION - DATA FROM 33, 100, 107, 126, 156, 163, 209, 211, 232

86 HALL, T.A. AND TSAO, P.H.
HEAT TRANSFER AT LOW TEMPERATURES BETWEEN TUBE WALLS AND GASES IN TURBULENT FLOW
PROC. ROY. SOC. (LONDON) VOL.A191, 6-21 (1947)

HEAT TRANSFER COEFFICIENTS (133 TO 273 DEGREES K AND 1 TO 11 ATM.)
OXYGEN, NITROGEN, CARBON DIOXIDE
EXPERIMENTAL - TABLES (41 VALUES), GRAPH, EQUATIONS
APPARATUS

87 HAMMANN, G.
WARMELEITFAHIGKEIT VON FLUSSIGEM SAUERSTOFF, FLUSSIGEM STICKSTOFF UND IHREN GEMISCHEN
THERMAL CONDUCTIVITY OF LIQUID OXYGEN AND LIQUID NITROGEN AND THEIR MIXTURES
ANN. PHYSIK (5), VOL.32, 593-607 (1938)

THERMAL CONDUCTIVITY FOR BINARY MIXTURE OXYGEN-NITROGEN (63 TO 83 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (7 VALUES), GRAPHS, EQUATIONS
APPARATUS
GERMAN

88 HASELDEN, G.G. AND PETERS, J.I.
HEAT TRANSFER TO BOILING LIQUID OXYGEN AND LIQUID NITROGEN
TRANS. INST. CHEM. ENGRS. (LONDON) VOL.27, 201-8 (1949)

HEAT TRANSFER COEFFICIENT (90 DEGREES K AND NEAR 1 ATM.
EXPERIMENTAL - TABLE (11 VALUES), GRAPH
APPARATUS

88A HASELDEN, G.G. AND PROSAD, S.
HEAT TRANSFER FROM CONDENSING OXYGEN AND NITROGEN VAPOURS
TRANS. INST. CHEM. ENGRS. (LONDON) VOL.27, 195-200 (1949)

HEAT TRANSFER COEFFICIENT FOR BINARY SYSTEM OXYGEN-NITROGEN (90 DEGREES K AND 1 TO 5 ATM.)
EXPERIMENTAL - TABLES (31 VALUES), GRAPHS
APPARATUS

89 HAWKINS, G.A.
VIII. BRIEF REVIEW OF AVAILABLE DATA ON THE DYNAMIC VISCOSITY AND THERMAL CONDUCTIVITY FOR TWELVE GASES
TRANS. AM. SOC. MECH. ENGRS. VOL.70, 655-9 (1948)

THERMAL CONDUCTIVITY, VISCOSITY
OXYGEN AND 11 GASES
SURVEY

90 HENNING, F.
ESTABLISHMENT OF THE TEMPERATURE SCALE BETWEEN 0 AND -193 DEGREES C
ANN. PHYSIK VOL.43, 282-94 (1914)

VAPOR PRESSURE (88 TO 90 DEGREES K AND 0.8 TO 1.0 ATM.), BOILING POINT (NORMAL)
OXYGEN AND 6 OTHER GASES
EXPERIMENTAL - TABLES
CODED FROM ABSTRACT

91 HENNING, F. AND HEUSE, W.
EINE NEUE BESTIMMUNG DER NORMALEN SIEDEPUNKTE VON SAUERSTOFF,
STICKSTOFF UND WASSERSTOFF
A NEW DETERMINATION OF THE NORMAL BOILING POINTS OF OXYGEN,
NITROGEN AND HYDROGEN
Z. PHYSIK VOL.23, 105-16 (1924)

VAPOR PRESSURE (69 TO 90 DEGREES K AND 0.05 TO 1 ATM.), BOILING
POINT (NORMAL)
EXPERIMENTAL - TABLES (34 VALUES)
GERMAN

92 HENNING, F. AND OTTO, J.
DAMPFDRUCKKURVEN UND TRIPELPUNKTE IM TEMPERATUREGEBIET VON
14 GRAD BIS 90 GRAD ABS.
VAPOR PRESSURE CURVES AND TRIPLE POINTS IN THE TEMPERATURE
REGION FROM 14 TO 90 DEGREES ABSOLUTE
Z. PHYSIK VOL.37, 633-8 (1936)
PROC. INTERN. CONGR. REFRIG. 7TH CONGR. HAGUE-AMSTERDAM, VOL.1, NO.3,
174-86 (1936)

VAPOR PRESSURE (66 TO 90 DEGREES K AND 0.03 TO 1 ATM.), TRIPLE
POINT, NORMAL BOILING POINT
OXYGEN, HYDROGEN, NEON, NITROGEN
EXPERIMENTAL - TABLES (22 VALUES), EQUATION
GERMAN

92A HERSH, C.K.
PRODUCTION AND PROPERTIES OF LIQUID OZONE AND LIQUID OZONE-OXYGEN
MIXTURES, A REVIEW
P. 427-44 IN PROGRESS IN ASTRONAUTICS AND ROCKETRY, VOL.2,
LIQUID ROCKETS AND PROPELLANTS
ACADEMIC PRESS INC., NEW YORK, NEW YORK (1960)

SURFACE TENSION, VISCOSITY, DENSITY, HEAT CAPACITY (P=CONSTANT),
THERMAL CONDUCTIVITY, VAPOR PRESSURE, PHASE TRANSITION HEATS, MOLECULAR
WEIGHT, MELTING POINT, BOILING POINT, CRITICAL POINT, VISCOSITY FOR
BINARY MIXTURE OXYGEN-OZONE
COMPILATION - DATA FROM 186, 111B, 112, 92B, 23

92B HERSH, C.K., BERGER, A.W. AND BROWN, J.R.C.
PHYSICAL PROPERTIES OF LIQUID OZONE-OXYGEN MIXTURES
DENSITY, VISCOSITY, AND SURFACE TENSION
ADV. CHEM. SER. VOL.21, 22-7 (1959)

SPECIFIC VOLUME, VISCOSITY, AND SURFACE TENSION FOR BINARY MIXTURE
OZONE-OXYGEN (77.5 AND 90 DEGREES K)
EXPERIMENTAL
APPARATUS
CODED FROM ABSTRACT ONLY

93 HERZBERG, F.
EFFECTIVE DENSITY OF BOILING LIQUID OXYGEN
P. 526-32 IN ADVANCES IN CRYOGENIC ENGINEERING, VOL.5
PROCEEDINGS OF THE 1959 CRYOGENIC ENGINEERING CONFERENCE AT
UNIVERSITY OF CALIFORNIA, BERKELEY, CALIF., TIMMERHAUS, K.D., EDITOR
PLENUM PRESS, INC., NEW YORK (1960)

DENSITY (90 TO 97 DEGREES K AND 1 TO 2 ATM.)
EXPERIMENTAL - GRAPHS, EQUATIONS
APPARATUS

94 HEUSE, W. AND OTTO, J.
GASTHERMOMETRISCHE BESTIMMUNG EINIGER FIXPUNKTE UNTERHOLB 0 GRAD
MIT TENSIONS- UND WIDERSTANDSTHERMOMETERN. II.
GAS THERMOMETER DETERMINATION OF SOME FIXED POINTS BELOW 0
DEGREES IN CONNECTION WITH PRESSURE AND RESISTANCE THERMOMETERS II.
ANN. PHYS. (5), VOL.9, 486-504 (1931)

BOILING POINT (NORMAL)
OXYGEN, HYDROGEN, CARBON DIOXIDE, MERCURY
EXPERIMENTAL - TABLE (26 VALUES)
THEORETICAL - EQUATIONS
GERMAN

95 HEUSE, W. AND OTTO, J.
EINE NEUE GASTHERMOMETRISCHE BESTIMMUNG VON FIXPUNKTEN UNTERHALB
0 GRAD IN VERBINDUNG MIT TENSIONS- UND WIDERSTANDSTHERMOMETERN
A NEW GAS THERMOMETRIC DETERMINATION OF SOME FIXED POINTS
BELOW 0 DEGREES IN CONNECTION WITH PRESSURE AND RESISTANCE
THERMOMETERS.
ANN. PHYSIK (5), VOL.14, 185-92 (1932)

BOILING POINT (NORMAL)
OXYGEN, HYDROGEN, CARBON DIOXIDE, MERCURY
EXPERIMENTAL - TABLE (1 VALUE)
GERMAN

96 HILSENRATH, J. ET. AL.
TABLES OF THERMAL PROPERTIES OF GASES (CHAPTER 8)
P. 369-436 IN NATL. BUR. STANDARDS CIRC. NO.564, (1955)
REPRINTED AS TABLES OF THERMODYNAMIC AND TRANSPORT PROPERTIES OF
AIR, ARGON, CARBON DIOXIDE, HYDROGEN, NITROGEN, OXYGEN AND STEAM
PERGAMON PRESS, OXFORD (1960) 478 P.

P-V-T, EQUATION OF STATE, VIRIAL COEFFICIENTS, COMPRESSIBILITY
FACTOR, SPECIFIC HEAT (P=CONSTANT), VELOCITY OF SOUND, VAPOR
PRESSURE, ENTROPY, ENTHALPY, THERMAL CONDUCTIVITY, PRANDTL NUMBER,
SPECIFIC HEAT RATIO, VISCOSITY
BOOK

97 HILSENRATH, J. AND TOULOUKIAN, Y.S.
VISCOSITY, THERMAL CONDUCTIVITY AND PRANDTL NUMBER FOR AIR, OXYGEN, NITROGEN, NITRIC OXIDE, HYDROGEN, CARBON MONOXIDE, CARBON DIOXIDE, WATER, HELIUM AND ARGON
TRANS. AM. SOC. MECH. ENGRS. VOL.76, NO.6, 967-85 (1954)

SPECIFIC HEAT (P=CONSTANT), PRANDTL NUMBER, VISCOSITY (100 TO 2000 DEGREES K AND 1 TO 100 ATM.), THERMAL CONDUCTIVITY (100 TO 800 DEGREES K AND 1 ATM.)
THEORETICAL - EQUATIONS
COMPILATION - DATA FROM 81, 117, 216

98 HIRSCH, M.
PRESSURE - TEMPERATURE CHART FOR VAPORS
IND. ENG. CHEM. VOL.34, 174-82 (1942)

TRIPLE POINT, VAPOR PRESSURE
OXYGEN, CARBON DIOXIDE, WATER, AMMONIA, SULFUR DIOXIDE, ETHYLENE, BUTANE, FLUORO REFRIGERANTS
THEORETICAL - GRAPHS, EQUATIONS

99 HIRSCHFELDER, J.O.
HEAT CONDUCTIVITY IN POLYATOMIC OR ELECTRONICALLY EXCITED GASES
UNIVERSITY OF WISCONSIN NAVAL RESEARCH LAB. REPORT WIS-ONR 22 (1956) 14 P. ASTIA AD 91783

DIFFUSION COEFFICIENT, PRANDTL NUMBER (173-1073 DEGREES K AND NEAR 1 ATM.), THERMAL CONDUCTIVITY
OXYGEN AND 21 OTHER GASES
THEORETICAL - EQUATIONS, TABLE (10 VALUES)

100 HIRSCHFELDER, J. O., BIRD, R. B. AND SPOTZ, E. L.
THE TRANSPORT PROPERTIES OF GASES AND GASEOUS MIXTURES. II.
CHEM. REV. VOL.44, NO.1, 205-31 (1949)

SECOND VIRIAL COEFFICIENT, THERMAL CONDUCTIVITY, VISCOSITY, DIFFUSION COEFFICIENTS (100 TO 300 DEGREES K)
OXYGEN, 44 OTHER GASES
COMPILATION - DATA FROM 103, 116, 117

101 HIRSCHFELDER, J.O., BIRD, R.B. AND SPOTZ, E.L.
THE TRANSPORT PROPERTIES FOR NON-POLAR GASES
J. CHEM. PHYS. VOL.16, NO.10, 968-81 (1948)

VISCOSITY (80 TO 1500 DEGREES K), THERMAL CONDUCTIVITY
OXYGEN AND 10 OTHER GASES
THEORETICAL - TABLE (13 VALUES)
COMPILATION - DATA FROM 117

102 HIRSCHFELDER, J.O., BIRD, R.B. AND SPOTZ, E.L.
VISCOSITY AND OTHER PHYSICAL PROPERTIES OF GASES AND GAS MIXTURES
TRANS. AM. SOC. MECH. ENGRS. VOL.71, 921-37 (1949)

EQUATION OF STATE, SECOND VIRIAL COEFFICIENTS, JOULE-THOMSON COEFFICIENT, THERMAL CONDUCTIVITY, VISCOSITY, DIFFUSION COEFFICIENTS
OXYGEN AND 15 OTHER GASES
THEORETICAL - TABLES, EQUATIONS

103 HIRSCHFELDER, J.O. AND ROSEVEARE, W.E.
INTERMOLECULAR FORCES AND THE PROPERTIES OF GASES
J. PHYS. CHEM. VOL.43, 15-35 (1939)

SECOND VIRIAL COEFFICIENT, COEFFICIENTS FOR BEATTIE-BRIDGEMAN EQUATION, JOULE-THOMSON COEFFICIENTS
OXYGEN AND 11 OTHER GASES
THEORETICAL - TABLE (1 VALUE), EQUATIONS, GRAPHS

104 HODGMAN, C.D. (EDITOR)
HANDBOOK OF CHEMISTRY AND PHYSICS, 37TH EDITION
CHEMICAL RUBBER PUBLISHING CO., CLEVELAND, OHIO (1956) 3109 P.

VISCOSITY, SPECIFIC HEAT (P=CONSTANT), SPECIFIC HEAT RATIO, VAPOR PRESSURE, CRITICAL CONSTANTS, DENSITY, ENTROPY, VELOCITY OF SOUND, EQUATION OF STATE, THERMAL CONDUCTIVITY
BOOK

105 HOGE, H.J.
THE NBS-NACA TABLES OF THERMAL PROPERTIES OF GASES. TABLE 9.50
VAPOR PRESSURE OF OXYGEN (DECEMBER 1949)
REPRINTED IN DOCUMENT NO. 231

VAPOR PRESSURE (54 TO 150 DEGREES K AND 0.0015 TO 41.620 ATM.)
COMPILATION - DATA FROM 5, 106

106 HOGE, H.J.
VAPOR PRESSURE AND FIXED POINTS OF OXYGEN AND HEAT CAPACITY IN THE CRITICAL REGION
J. RESEARCH NATL. BUR. STANDARDS VOL.44, 321-45 (1950) RP2081

VAPOR PRESSURE (54 TO 156 DEGREES K AND NEAR ZERO TO 50 ATM.), HEAT CAPACITY (SPECIFIC HEAT)(V=CONSTANT) (125 TO 160 DEGREES K), TRIPLE POINT, CRITICAL POINT, BOILING POINT
EXPERIMENTAL - TABLES (439 VALUES), GRAPHS, EQUATION

107 HOLBORN, L. AND OTTO, J.
UBER DIE ISOTHERMEN EINIGER GASE ZWISCHEN +400 GRAD UND -183 GRAD
THE ISOTHERMS OF SEVERAL GASES BETWEEN 400 AND -183 DEGREES
Z. PHYSIK VOL.33, 1-11 (1925)

P-V-T, EXPANSIVITY (90 TO 673 DEGREES K AND 0 TO 0.1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, NEON, ARGON, HELIUM, AIR
EXPERIMENTAL - TABLES (30 VALUES), EQUATION
GERMAN

108 HOLBORN, L. AND OTTO, J.
UBER DIE ISOTHERMEN EINIGER GASE BIS 400 GRAD UND IHRE BEDEUTUNG FUR DAS GASTHERMOMETER
THE ISOTHERMS OF SEVERAL GASES UP TO 400 DEGREES AND THEIR IMPORTANCE FOR THE GAS THERMOMETER
Z. PHYSIK VOL.23, 77-94 (1924)

P-V-T (248 TO 473 DEGREES K AND 0.0013 ATM.)
OXYGEN, NITROGEN, HYDROGEN, NEON, ARGON, HELIUM
EXPERIMENTAL - TABLES (16 VALUES), GRAPH, EQUATIONS
APPARATUS
GERMAN

108A HOLLEY, C.E., WORLTON, W.J. AND ZEIGLER, R.K.
COMPRESSIBILITY FACTORS AND FUGACITY COEFFICIENTS CALCULATED FROM THE BEATTIE-BRIDGEMAN EQUATION OF STATE FOR HYDROGEN, NITROGEN, OXYGEN, CARBON DIOXIDE, AMMONIA, METHANE, AND HELIUM
U.S. ATOMIC ENERGY COMMISSION, LA - 2271, 51 P. (1959)
LOS ALAMOS SCIENTIFIC LABORATORY OF THE UNIVERSITY OF CALIFORNIA
LOS ALAMOS, NEW MEXICO

COMPRESSIBILITY FACTORS, FUGACITY COEFFICIENTS, CONSTANTS FOR BEATTIE-BRIDGEMAN EQUATION OF STATE (100 TO 1000 DEGREES K AND 0.1 TO 100 ATM.)
COMPILATION - DATA FROM 96

109 HOLST, G.
ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XXVI. THE VAPOR PRESSURES OF OXYGEN AND NITROGEN ACCORDING TO THE PRESSURE MEASUREMENTS BY V. SIEMENS AND THE TEMPERATURE DETERMINATIONS BY KAMERLINGH ONNES
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.148A (1915)
TRANSLATED FROM VERSLAG GEWONE VER. WIS NATUURK. AFDEEL. KON. AKAD WET. AMSTERDAM VOL.25, 603-13 (1915)

VAPOR PRESSURE (57.40 TO 90.61 DEGREES K AND 0.04 TO 1 ATM.)
COMPILATION - DATA FROM 90, 189

109A HOMFRAY, I.F.
DIE ABSORPTION VON GASEN DURCH HOLZKOHLE
THE ABSORPTION OF GASES BY WOOD CHARCOAL
Z. PHYSIK. CHEM. (LEIPZIG) VOL.74, 129-201 (1910)

ADSORPTION (194.7 TO 273 DEGREES K AND 0 TO 1 ATM.)
OXYGEN, NITROGEN, CARBON MONOXIDE, HELIUM, METHANE, ETHYLENE, CARBON MONOXIDE, CARBON DIOXIDE, NITROGEN-CARGON MONOXIDE, OXYGEN-HYDROGEN
EXPERIMENTAL - TABLE (12 VALUES), GRAPHS
APPARATUS
GERMAN

110 HOVI, V.
VELOCITY OF SOUND AT DIFFERENT TEMPERATURES IN HYDROGEN, NITROGEN, AIR, OXYGEN AND CARBON DIOXIDE
ANN. ACAD. SCI. FENNICAE SER. A, VI., NO.18, 1-18 (1959)

VELOCITY OF SOUND (205 TO 292 DEGREES K AND 1 ATM.), EQUATION OF STATE, VIRIAL COEFFICIENTS, SPECIFIC HEAT (V=CONSTANT), MOLECULAR WEIGHT
EXPERIMENTAL - TABLE (21 VALUES), GRAPHS
THEORETICAL - EQUATIONS
APPARATUS

111 INGLIS, J.K.H.
THE ISOTHERMAL DISTILLATION OF NITROGEN AND OXYGEN AND OF ARGON AND OXYGEN
PHIL. MAG. (6), VOL.11, 640-58 (1906)

VAPOR PRESSURE FOR BINARY MIXTURE NITROGEN-OXYGEN (74.7 AND 79.07 DEGREES K AND .13 TO .67 ATM.), VAPOR PRESSURE FOR BINARY MIXTURE OXYGEN-ARGON (82 DEGREES K AND .395 TO .53 ATM.)
MIXTURES OF ORGANIC LIQUIDS
EXPERIMENTAL - TABLES (82 VALUES), GRAPHS
APPARATUS

111A ISHKIN, I.P. AND BOURBO, P.Z.
SOLUBILITY OF SOLID ACETYLENE AND CARBON DIOXIDE IN LIQUID OXYGEN, NITROGEN, AND OXYGEN-NITROGEN MIXTURES
ZHUR. FIZ. KHIM. VOL.13, 1337-9 (1939)

SOLUBILITY OF BINARY MIXTURES OXYGEN-ACETYLENE AND OXYGEN-CARBON DIOXIDE AND OF TERNARY MIXTURES OXYGEN-NITROGEN-ACETYLENE AND OXYGEN-NITROGEN-CARBON DIOXIDE (77 TO 90 DEGREES K)
EXPERIMENTAL - TABLE (12 VALUES), GRAPH
RUSSIAN

111B JENKINS, A.C. AND BIRDSALL, C.M.
THE LIQUID SYSTEM OZONE-OXYGEN
J. CHEM. PHYS. VOL.22, 1779 (1954)

NORMAL BOILING POINT OF BINARY MIXTURE OZONE-OXYGEN
EXPERIMENTAL - TABLE (1 VALUE), GRAPH

112 JENKINS, A.C. AND DI PAOLO, F.S.
SOME PHYSICAL PROPERTIES OF PURE LIQUID OZONE AND OZONE-OXYGEN MIXTURES
J. CHEM. PHYS. VOL.25, 296-301 (1956)

DENSITY, VISCOSITY (78 TO 90 DEGREES K AND 1 ATM.), SURFACE TENSION (90 DEGREES K AND 1 ATM.), MELTING POINT
EXPERIMENTAL - TABLE (18 VALUES), GRAPHS
APPARATUS

112A JENKINS, A.C., DI PAOLO, F.S. AND BIRDSALL, C.M.
THE SYSTEM OZONE-OXYGEN
J. CHEM. PHYS. VOL.23, 2049-54 (1955)

SOLUBILITY OF BINARY MIXTURE OZONE-OXYGEN (78 TO 93 DEGREES K AND .0001 TO .96 ATM.)
EXPERIMENTAL - TABLES (70 VALUES), GRAPHS
APPARATUS

113 JOHNS, T.F.
VAPOR-PRESSURE DIFFERENCES BETWEEN SOME OF THE ISOTOPIC SPECIES OF CARBON MONOXIDE, METHANE AND OXYGEN, PART I. EXPERIMENTAL
ATOMIC ENERGY RESEARCH ESTAB. GT. BRIT. G.P./R-2166, 53 P. (1957)
ASTIA AD 156 458

VAPOR PRESSURE (65 TO 89.2 DEGREES K AND 0.02 TO 1 ATM.), TRANSITION POINTS
EXPERIMENTAL - TABLE (24 VALUES), GRAPH

114 JOHNSON, C.A.
VISCOSITY OF GASEOUS MIXTURES
SYRACUSE UNIVERSITY, SYRACUSE, N.Y., PH. D. THESIS (1956) 129 P.
ABSTRACTED IN DISSERTATION ABST. VOL.17, 1283-4 (1957)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS COMPLETED AND THE PAPER COULD NOT BE OBTAINED IN TIME TO INCLUDE A LISTING OF ITS CONTENTS.

115 JOHNSON, V.J. (EDITOR)
A COMPENDIUM OF THE PROPERTIES OF MATERIALS AT LOW TEMPERATURE (PHASE I). PART I. PROPERTIES OF FLUIDS, PART III. BIBLIOGRAPHY OF REFERENCES (CROSS-INDEXED)
WRIGHT AIR DEVELOPMENT DIVISION TECHNICAL REPORT 60-56 (1960) 560 P.
(NATIONAL BUREAU OF STANDARDS, CRYOGENIC ENGINEERING LABORATORY, BOULDER, COLORADO)

DENSITY, THERMAL CONDUCTIVITY, SPECIFIC HEAT, ENTHALPY, HEAT OF VAPORIZATION, VAPOR PRESSURE
BOOK

116 JOHNSTON, H.L. AND GRILLY, E.R.
THE THERMAL CONDUCTIVITIES OF EIGHT COMMON GASES BETWEEN 80 AND 380 DEGREES K
J. CHEM. PHYS. VOL.14, 233-8 (1946)

THERMAL CONDUCTIVITY (86 TO 376 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, CARBON DIOXIDE, CARBON MONOXIDE, NITROUS OXIDE, NITRIC OXIDE, HELIUM, METHANE
EXPERIMENTAL - TABLES (52 VALUES), GRAPH

117 JOHNSTON, H.L. AND MC CLOSKEY, K.E.
VISCOSITIES OF SEVERAL COMMON GASES BETWEEN 90 DEGREES K AND ROOM TEMPERATURE
J. PHYS. CHEM. VOL.44, 1038-58 (1940)

VISCOSITY (90 TO 300 DEGREES K AND ABOUT 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, CARBON DIOXIDE, NITROUS OXIDE, NITRIC OXIDE, METHANE, AIR
EXPERIMENTAL - TABLES (41 VALUES), GRAPH
APPARATUS

118 JOHNSTON, H.L. AND WALKER, M.K.
HEAT CAPACITY CURVES OF THE SIMPLER GASES. II. HEAT CAPACITY, ENTROPY AND FREE ENERGY OF GASEOUS OXYGEN FROM NEAR ZERO ABSOLUTE TO 5000 DEGREES K
J. AM. CHEM. SOC. VOL.55, 172-86 (1933)

HEAT CAPACITY (SPECIFIC HEAT)(P=CONSTANT), ENTROPY, FREE ENERGIES (GIBBS FUNCTION) (0 TO 5000 DEGREES K AND 1 ATM.)
THEORETICAL - TABLES, GRAPHS

119 JUSTI, E.
UBER DIE TRIPELPUNKTE DES STICKSTOFFS UND DES SAUERSTOFFS ALS FESTPUNKTE DER TEMPERATURSKALA
ON THE TRIPLE POINTS OF NITROGEN AND OXYGEN AS FIXED POINTS OF THE TEMPERATURE SCALE
ANN. PHYSIK (5), VOL.10, 983-91 (1931)

TRIPLE POINT
SURVEY
GERMAN

119A JUSTI, E. AND LAUE, M.
NEUARTIGE PHASENUMWANDLUNGEN BEI EINHEITLICHEN STOFFEN
NEW TYPE OF PHASE TRANSITION IN PURE SUBSTANCES
SITZBER. PREUSS. AKAD. WISS. PHYSIK. MATH. KL. 237-49 (1934)

MELTING POINT AND FREEZING POINT CURVES
OXYGEN
THEORETICAL - EQUATIONS, GRAPHS
GERMAN

120 KAGANER, M.G.
THE JOULE-THOMSON EFFECT AND THE EQUATION OF STATE OF GASES WITH NON-POLAR MOLECULES
ZHUR. FIZ. KHIM. VOL.30, NO.12, 2691-704 (1956)

DENSITY, EQUATION OF STATE, VIRIAL COEFFICIENTS, ENTHALPY, JOULE-THOMSON COEFFICIENT (148 TO 403 DEGREES K AND 20 TO 360 ATM.)
OXYGEN, NITROGEN, NEON, ARGON, KRYPTON
EXPERIMENTAL - TABLES, GRAPHS
THEORETICAL - EQUATIONS
RUSSIAN

121 KAHLE, H.
NEUE APPARATE FUR DIE BESTIMMUNG DER GASDICHTE NACH DEM BUNSENSCHEN AUSSTROMUNGSPRINZIP
NEW APPARATUS FOR DETERMINING GAS DENSITIES BY BUNSON'S FLOW PRINCIPLE
Z. ANGEW. CHEM. VOL.41, 876-80 (1928)

DENSITY
OXYGEN, NITROGEN, HYDROGEN, NEON. ARGON, HELIUM, CARBON DIOXIDE, METHANE, AIR
EXPERIMENTAL
APPARATUS
GERMAN

122 KANDA, E., HASEDA, T. AND OTSUBO, A.
PARAMAGNETIC SUSCEPTIBILITY OF SOLID OXYGEN
SCI. REPTS. RESEARCH INSTS. TOHOKU UNIV. (A), VOL.7, 1-5 (1955)

PARAMAGNETIC SUSCEPTIBILITY (2 TO 77 DEGREES K AND 1 ATM.)
EXPERIMENTAL - GRAPH
APPARATUS

122A KASSEL, L.S. AND MUSKAT, M.
SURFACE ENERGY AND HEAT OF VAPORIZATION OF LIQUIDS
PHYS. REV. VOL.40, 627-32 (1932)

SURFACE ENERGY, HEAT OF VAPORIZATION (80 TO 90 DEGREES K)
OXYGEN, HELIUM, NEON, ARGON, NITROGEN, CHLORINE
THEORETICAL - TABLE (2 VALUES)

123 KEESOM, W.H.
THERMODYNAMISCHE ONDERZOEKINGEN
THERMODYNAMIC INVESTIGATIONS
P. 89-163 IN HET NATUURKUNDIG LABORATORIUM DER RIJKSUNIVERSITEIT TE LEIDEN IN DE JAREN 1904-1922
THE PHYSICAL LABORATORY AT THE STATE UNIVERSITY AT LEIDEN IN THE YEARS 1904-22
EDUARD IJDO, LEIDEN (1922)
PHYSIK. BER. VOL.4, 613 (1922) (ABSTRACT)

P-V-T (63 TO 154 DEGREES K AND 0.01 TO 50 ATM.), VAPOR PRESSURE (62 TO 90 DEGREES K AND 0.01 TO 1 ATM.), PHASE TRANSITION HEATS (LATENT HEATS OF FUSION AND VAPORIZATION), JOULE-THOMSON EFFECT (NO TEMPERATURE OR PRESSURE RANGE GIVEN), CRITICAL POINT, TRIPLE POINT
OXYGEN, NITROGEN, HYDROGEN, ARGON, NEON, HELIUM
COMPILATION - DATA FROM 28, 160, 162
DUTCH

124 KEESOM, W.H., BIJL, A. AND VAN IERLAND, J.F.
LES DIAGRAMMES LOG P, W DU MONOXYDE DE CARBONE ET DE L'OXYGENE
LOG P - ENTHALPY DIAGRAMS OF CARBON MONOXIDE AND OXYGEN
COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN SUPPL. NO.112D (1955)
TRANSLATION AVAILABLE FROM CRYOGENIC DATA CENTER,
NATIONAL BUREAU OF STANDARDS, BOULDER, COLORADO

P-V-T, ENTROPY, ENTHALPY (73 TO 473 DEGREES K AND 0.1 TO 300 ATM.)
THEORETICAL - GRAPHS
FRENCH

125 KEESOM, W.H. AND LISMAN, J.H.C.
COURBES DE FUSION DES GAS SOLIDIFIES
FUSION CURVES OF SOLIDIFIED GASES
PROC. INTERN. CONGR. REFRIG. 7TH CONGR., THE HAGUE-AMSTERDAM 151-5 (1936)

MELTING CURVE (54.4 TO 56.5 DEGREES K AND 0 TO 200 ATM.)
OXYGEN, NEON, NITROGEN
COMPILATION - DATA FROM 144
FRENCH

125A KEESOM, W.H. AND SCHWEERS, J.
MEASUREMENTS OF THE ADSORPTION OF HELIUM ON SOLIDIFIED LAYERS OF SOME GASES
PHYSICA VOL.8, 1032-43 (1941)
REPRINTED IN COMMUNS. KAMERLINGH ONNES LAB. LEIDEN NO. 264D (1941)

ADSORPTION (1 TO 4 DEGREES K AND 0 TO .00001 ATM.)
HELIUM ON HYDROGEN, NITROGEN, NEON, OXYGEN
EXPERIMENTAL - TABLE (20 VALUES), GRAPH

126 KEESOM, W.H., VAN ITTERBEEK, A. AND VAN LAMMEREN, J.A.
MEASUREMENTS ABOUT THE VELOCITY OF SOUND IN OXYGEN GAS
PROC. KONINKL. AKAD. WETTENSCHAP. AMSTERDAM VOL.34, 996 (1931)
REPRINTED IN COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 216D (1931)

VELOCITY OF SOUND (77 TO 273 DEGREES K AND 0.1 TO 1 ATM.)
EXPERIMENTAL - TABLES (30 VALUES), GRAPH, EQUATION

126A KERR, E.C.
PHYSICAL PROPERTY MEASUREMENTS AT LOW TEMPERATURES
PROC. INSTR. SOC. AM. VOL.10, PART 2, PAPER NO. 55-2-4 (1955)

MELTING POINT (54 TO 88 DEGREES K AND 0 TO 3500 ATM.)
OXYGEN, NITROGEN, NEON, HYDROGEN, TRITIUM, DEUTERIUM, HELIUM 3 AND 4
EXPERIMENTAL - GRAPHS
APPARATUS

127 KEYES, F.G.
THE HEAT CONDUCTIVITY, VISCOSITY, SPECIFIC HEAT AND PRANDTL NUMBERS FOR THIRTEEN GASES
SQUID TECHNICAL REPORT 37, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE (1952) 33 P.

HEAT CONDUCTIVITY, VISCOSITY, SPECIFIC HEAT (P=CONSTANT), PRANDTL NUMBER (73 TO 1273 DEGREES K)
OXYGEN AND 12 OTHER GASES
COMPILATION - DATA FROM 101

128 KEYES, F.G.
SUMMARY OF VISCOSITY AND HEAT CONDUCTION DATA FOR HELIUM, ARGON, OXYGEN, NITROGEN, CARBON MONOXIDE, CARBON DIOXIDE, WATER AND AIR
TRANS. AM. SOC. MECH. ENGRS. VOL.73, 589-96 (1951)

THERMAL CONDUCTIVITY, VISCOSITY (90 TO 375 DEGREES K)
COMPILATION - DATA FROM 102, 116, 117

129 KEYES, F.G.
THERMAL CONDUCTIVITY OF GASES
TRANS. AM. SOC. MECH. ENGRS. VOL.77, 1395-6 (1955)

THERMAL CONDUCTIVITY (85 TO 273 DEGREES K AND 1 TO 10 ATM.)
OXYGEN, NITROGEN, ARGON, CARBON DIOXIDE, XENON, KRYPTON, METHANE
EXPERIMENTAL - TABLES (9 VALUES), EQUATIONS

130 KISHIMOTO, T. AND NOMOTO, O.
ON MOLECULAR SOUND VELOCITY OF LIQUIDS. I. CONSIDERATION ON THE RAO'S RELATION BETWEEN THE TEMPERATURE COEFFICIENT OF SOUND VELOCITY IN AND THE COEFFICIENT OF THERMAL EXPANSION OF LIQUIDS
J. PHYS. SOC. JAPAN VOL.9, 59-65 (1954)

EXPANSIVITY, COMPRESSIBILITY (ADIABATIC)(ISOTHERMAL), VELOCITY OF SOUND
OXYGEN, NITROGEN, HYDROGEN, NEON, ARGON, HELIUM, CARBON MONOXIDE, NITROUS OXIDE, NITRIC OXIDE, METHANE
THEORETICAL - GRAPHS, EQUATIONS

131 KISHIMOTO, T. AND NOMOTO, O.
MOLECULAR SOUND VELOCITY OF LIQUIDS. II. DEPENDENCE OF THE THERMAL EXPANSION COEFFICIENT AND THE TEMPERATURE COEFFICIENT OF COMPRESSIBILITY OF LIQUIDS ON THE BOILING POINT
J. PHYS. SOC. JAPAN VOL.9, 66-72 (1954)

EXPANSION COEFFICIENT, COMPRESSIBILITY (ADIABATIC)(ISOTHERMAL), VELOCITY OF SOUND (50 TO 90 DEGREES K AND 0.3 TO 1 ATM.)
OXYGEN, 4 GASES, 29 ORGANIC LIQUIDS, 7 MOLTEN METALS
THEORETICAL - EQUATIONS
COMPILATION - DATA FROM 141, 142, 207

131A KNAPP, H.F.P., KNOESTER, M. AND BEENAKKER, J.J.M.
THE VOLUME CHANGE ON MIXING FOR SEVERAL LIQUID SYSTEMS AND THE DIFFERENCE IN MOLAR VOLUME BETWEEN THE ORTHO AND PARA MODIFICATIONS OF THE HYDROGEN MOLECULE
PHYSICA VOL.27, 309-18 (1961)
REPRINTED IN COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 25C (1961)

VOLUME CHANGE OF MIXING FOR BINARY SYSTEM OXYGEN-NITROGEN(77 DEGREES K)
VOLUME CHANGE OF MIXING FOR BINARY SYSTEM OXYGEN-ARGON (90 DEGREES K)
OXYGEN-ARGON, OXYGEN-NITROGEN, HYDROGEN-DEUTERIUM, NORMAL HYDROGEN-PARA HYDROGEN
EXPERIMENTAL - TABLE (13 VALUES), GRAPHS
APPARATUS

132 KNOBLER, C.M., KNAAP, H.F.P. AND BEENAKKER, J.J.M.
MEASUREMENT OF VOLUME CONTRACTION AND HEAT OF MIXING OF OXYGEN-NITROGEN MIXTURES
PHYSICA VOL.26, 142 (1960)

VOLUME CONTRACTION, HEAT OF MIXING FOR BINARY SYSTEM OXYGEN-NITROGEN (77 DEGREES K)
EXPERIMENTAL - GRAPH

132A KNOBLER, C.M., VAN HEIJNINGEN, R.J.J. AND BEENAKKER, J.J.M.
EXCESS THERMODYNAMIC PROPERTIES OF THE LIQUID SYSTEMS OXYGEN-ARGON AND OXYGEN-NITROGEN
PHYSICA VOL.27, 296-308 (1961)
REPRINTED IN COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 326B (1961)

HEAT OF MIXING, EXCESS GIBBS FUNCTION FOR BINARY SYSTEM OXYGEN-NITROGEN (77 DEGREES K), HEAT OF MIXING, EXCESS GIBBS FUNCTION FOR BINARY SYSTEM OXYGEN-ARGON (86 DEGREES K)
EXPERIMENTAL - TABLES (40 VALUES), GRAPHS, EQUATIONS
APPARATUS

133 KOCH, H.A. JR. AND WILLIAMS, V.C.
GRAPHICAL RESIDUAL. ITS APPLICATIONS TO PHASE RELATIONS OF OXYGEN AND NITROGEN
CHEM. ENGR. PROGR. VOL.43, 623-32 (1947)

VAPOR PRESSURE (60 TO 155 DEGREES K AND 0.2 TO 50 ATM.)
COMPILATION - DATA FROM 28, 50, 92, 160, 162

134 KOLSKY, H.G.
THE THERMODYNAMIC PROPERTIES OF 54 ELEMENTS CONSIDERED AS IDEAL MONATOMIC GASES
UNIVERSITY OF CALIFORNIA, LOS ALAMOS SCIENTIFIC LAB., LOS ALAMOS, NEW MEXICO. REPORT NO. LA 2110, 138 P. (1957)

ENTHALPY, SPECIFIC HEAT (P=CONSTANT), ENTROPY, FREE ENERGY (GIBBS FUNCTION) (10 TO 8000 DEGREES K)
OXYGEN AND 53 OTHER ELEMENTS
THEORETICAL - TABLE (560 VALUES), EQUATIONS

135 KONOWALOW, D.D., HIRSCHFELDER, J.O. AND LINDER, B.
LOW-TEMPERATURE, LOW-PRESSURE TRANSPORT COEFFICIENTS FOR GASEOUS OXYGEN AND SULFUR ATOMS
J. CHEM. PHYS. VOL.31, NO.6, 1575-9 (1959)

VISCOSITY, THERMAL CONDUCTIVITY (5 TO 350 DEGREES K)
THEORETICAL - EQUATIONS, TABLE (24 VALUES)

136 KOSTRYUKOVA, M.O.
SPECIFIC HEAT OF SOLID OXYGEN BETWEEN 20 AND 4 DEGREES K
ZHUR. EKSPTL. I TEORET. FIZ. VOL.30, 1162-4 (1956)
TRANSLATION IN
SOVIET PHYS. JETP VOL.3, 771-2 (1956)

SPECIFIC HEAT (4 TO 20 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (72 VALUES), GRAPH
RUSSIAN

137 KOSTRYUKOVA, M.O. AND STRELKOV, P.G.
THE HEAT CAPACITY OF SOLID OXYGEN BELOW 4 DEGREES K
DOKLADY AKAD. NAUK. S.S.S.R. VOL.90, 525-8 (1953)

HEAT CAPACITY (0 TO 4.2 DEGREES K AND 1 ATM.)
EXPERIMENTAL - GRAPH
APPARATUS
RUSSIAN

137A KRITSCHEWSKY, I.R. AND TOROTSCHESCHNIKOW, N.S.
THERMODYNAMIK DES FLUSSIGKEITDAMPFGLEICHGEWICHTS IM STICKSTOFF-SAUERSTOFF SYSTEM
THERMODYNAMICS OF THE SOLID VAPOR PRESSURE EQUILIBRIUM IN THE NITROGEN-OXYGEN SYSTEM
Z. PHYSIK. CHEM. (LEIPZIG) VOL.A176, 338-46 (1936)

VAPOR PRESSURE, ENTHALPY, ENTROPY, FUGACITY OF BINARY MIXTURE NITROGEN-OXYGEN (126.78 TO 131.57 DEGREES K AND 2 TO 32 ATM.)
EXPERIMENTAL - TABLES (65 VALUES), GRAPHS
GERMAN

137B KUENEN, J.P., VERSCHOYLE, T. AND VAN URK, A. TH.
ISOTHERMS OF DI-ATOMIC SUBSTANCES AND THEIR BINARY MIXTURES XX. THE CRITICAL CURVE OF OXYGEN-NITROGEN MIXTURES, THE CRITICAL PHENOMENA AND SOME ISOTHERMS OF TWO MIXTURES WITH 50 AND 75 PERCENT BY VOLUME OF OXYGEN IN THE NEIGHBOURHOOD OF THE CRITICAL POINT
KONINKL. NED. AKAD. WETENSCHAP. PROC. VOL.26, 49-64 (1923)
REPRINTED IN COMMUNS. PHYS. LAB. LEIDEN NO. 161 (1923)

VAPOR PRESSURE, SATURATED DENSITY, P-V-T (123 TO 153 DEGREES K AND 25 TO 60 ATM.)
EXPERIMENTAL - TABLE (300 VALUES), GRAPH
APPARATUS

137C KUYPERS, H.A.
ISOTHERMS OF DI-ATOMIC SUBSTANCES AND THEIR BINARY MIXTURES XXVI. ON THE BEHAVIOR OF OXYGEN ACCORDING TO THE LAW OF CORRESPONDING STATES
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 169B (1924)
REPRINTED FROM PROC. INTERN. CONGR. REFRIG. 4TH CONGR., LONDON (1924)

VIRIAL COEFFICIENTS, DENSITY (157 TO 233 DEGREES K)
THEORETICAL - TABLES (140 VALUES), GRAPHS

138 LATIMER, R.E.
VAPOR-LIQUID EQUILIBRIUM OF NITROGEN-ARGON-OXYGEN MIXTURES
A. I. CH. E. JOURNAL VOL.3, NO.1, 75-82 (1957)
ALSO AVAILABLE FROM, AMERICAN DOCUMENTATION INSTITUTE, AUXILIARY PUBLICATIONS SERVICE, LIBRARY OF CONGRESS, WASHINGTON 25, D.C. DOCUMENT NO. 5032

VAPOR PRESSURE, PHASE TRANSITION HEATS FOR TERNARY MIXTURE NITROGEN-ARGON-OXYGEN (65 TO 125 DEGREES K AND 0.2 TO 20 ATM.)
THEORETICAL - TABLES (110 VALUES), GRAPHS, EQUATIONS

138A LEBEDEV, M.E.
SUPERHEATING AND BOILING OF LIQUID OXYGEN
KISLOROD VOL.12, 15-21 (1959)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS COMPLETED AND THE TRANSLATION OF THE PAPER COULD NOT BE OBTAINED IN TIME TO INCLUDE A LISTING OF THE CONTENTS.
RUSSIAN

139 LEE, J.F.
SPECIFIC HEAT OF GASES AT THE CRITICAL POINT
Z. ANGEW. MATH. U. PHYS. VOL.4, 401-4 (1953)

SPECIFIC HEAT (V=CONSTANT), SONIC VELOCITY, CRITICAL CONSTANTS, JOULE-THOMSON COEFFICIENT (155 DEGREES K AND 50 ATM.)
OXYGEN, NITROGEN, CARBON DIOXIDE
THEORETICAL - TABLE, EQUATIONS

140 LICHT, W. JR. AND STECHERT, D. G.
THE VARIATION OF THE VISCOSITY OF GASES AND VAPORS WITH TEMPERATURE
J. PHYS. CHEM. VOL.48, 23-47 (1944)

VISCOSITY (82 TO 1102 DEGREES K), CRITICAL CONSTANTS
OXYGEN, 25 OTHER GASES
THEORETICAL - EQUATIONS, TABLES, GRAPH, NOMOGRAPH
COMPILATION - DATA FROM 216

141 LIEPMANN, H.W.
UBER DIE MESSUNG DER SCHALLGESCHWINDIGKEIT IN FLUSSIGEM SAUERSTOFF
CONCERNING THE MEASUREMENT OF THE VELOCITY OF SOUND IN LIQUID OXYGEN
HELV. PHYS. ACTA VOL.9, 507-10 (1936)

VELOCITY OF SOUND, COMPRESSIBILITY (63 TO 93 DEGREES K AND 0.01 TO 1.3 ATM.)
EXPERIMENTAL - GRAPHS
APPARATUS
GERMAN

142 LIEPMANN, H.W.
DIE SCHALLGESCHWINDIGKEIT IN FLUSSIGEM SAUERSTOFF ALS FUNKTION DER SIEDETEMPERATUR BEI FREQUENZEN VON 7.5 UND 1.5 X 10 ZU DEN 6 TEN EXPONENT HZ
THE VELOCITY OF SOUND IN LIQUID OXYGEN AS A FUNCTION OF THE BOILING TEMPERATURES AT FREQUENCIES OF 7.5 AND 1.5 X 10 TO THE SIXTH POWER CYCLES PER SECOND
HELV. PHYS. ACTA VOL.11, 381-96 (1938)

VELOCITY OF SOUND, COMPRESSIBILITY(ISOTHERMAL)(ADIABATIC), SPECIFIC HEAT (P=CONSTANT) (63 TO 90 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (22 VALUES), GRAPHS
APPARATUS
GERMAN

143 LILEY, P.E.
SURVEY OF RECENT WORK ON THE VISCOSITY, THERMAL CONDUCTIVITY, AND DIFFUSION OF GASES AND LIQUEFIED GASES BELOW 500 DEGREES K
THERMOPHYSICAL PROPERTIES RESEARCH CENTER, PURDUE UNIVERSITY, LAFAYETTE, INDIANA. TPRC REPT. 13, 33 P. (1961)

VISCOSITY, THERMAL CONDUCTIVITY, DIFFUSION COEFFICIENTS
BIBLIOGRAPHY

144 LISMAN, J.H.C. AND KEESOM, W.H.
THE MELTING CURVE OF OXYGEN TO 170 KG/SQ CM
COMMUNS. KAMMERLINGH ONNES LAB. UNIV. LEIDEN NO.239A (1935)
REPRINTED FROM PHYSICA VOL.2, 901 (1935)

MELTING POINT (54.5 TO 56.5 DEGREES K AND 14 TO 190 ATM.), TRIPLE POINT
EXPERIMENTAL - TABLES (10 VALUES), GRAPH

145 LYDERSEN, A. L., GREENKORN, R. A. AND HOUGEN, O. A.
GENERALIZED THERMODYNAMIC PROPERTIES OF PURE GASES AND LIQUIDS
WISCONSIN UNIV. ENG. EXPT. STA. REPT. NO.4, 99 P (1955)

P-V-T, COMPRESSIBILITY FACTOR, ENTHALPY, ENTROPY, HEAT CAPACITY (P=CONSTANT), VAPOR PRESSURE, PHASE TRANSITION HEATS (80 TO 2300 DEGREES K AND 0.5 TO 1500 ATM.), CRITICAL CONSTANTS
OXYGEN, 81 COMPOUNDS
COMPILATION - DATA FROM 151, 220

146 MADAN, M. P.
TRANSPORT PROPERTIES OF SOME GAS MIXTURES
PROC. NAT. INST. SCI. INDIA VOL.19, 713-9 (1953)

DIFFUSION COEFFICIENT (100 TO 300 DEGREES K)
OXYGEN, 8 OTHER GASES
THEORETICAL - TABLES (17 VALUES)

146A MARKHAM, J.J., BEYER, R.T. AND LINDSAY, R.B.
ABSORPTION OF SOUND IN FLUIDS
REV. MOD. PHYS. VOL.23, 353-411 (1951)

VELOCITY AND ABSORPTION OF SOUND, THERMAL CONDUCTIVITY, VISCOSITY (87 DEGREES K)
OXYGEN, HYDROGEN, ARGON, MERCURY, NITROGEN, HELIUM, CARBON DIOXIDE, CARBON BISULFIDE, SEVERAL ORGANIC COMPOUNDS AND SEVERAL INORGANIC SOLUTIONS
THEORETICAL - TABLES, GRAPHS, EQUATIONS
COMPILATION - DATA FROM 109A, 212
APPARATUS

147 MASI, J.F.
SURVEY OF EXPERIMENTAL DETERMINATIONS OF HEAT CAPACITY OF TEN TECHNICALLY IMPORTANT GASES
TRANS. AM. SOC. MECH. ENGRS. VOL.76, NO.7, 1067-74 (1954)

HEAT CAPACITY (P=CONSTANT) (100 TO 3000 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, CARBON DIOXIDE, CARBON MONOXIDE, NITRIC OXIDE, WATER, AMMONIA, METHANE, AIR
COMPILATION - DATA FROM 96

148 MATHIAS, E.
L'ETUDE DE LA COURBE DES DENSITES A BASSE TEMPERATURE AU LABORATOIRE CRYOGENE DE LEIDEN
STUDY OF DENSITY CURVES AT LOW TEMPERATURES
P. 165-98 IN HET NATUURKUNDIG LABORATORIUM DER RIJKSUNIVERSITEIT TE LEIDEN IN DE JAREN 1904-1922
THE PHYSICAL LABORATORY AT THE STATE UNIVERSITY AT LEIDEN IN THE YEARS 1904-22
EDUARD IJDO, LEIDEN (1922)
PHYSIK. BER. VOL.4, 701-2 (1923) (ABSTRACT)

DENSITY (63 TO 153 DEGREES K AND 50 ATM.), CRITICAL CONSTANTS
OXYGEN, HYDROGEN, NEON, ARGON, HELIUM, CARBON DIOXIDE, XENON, METHANE, AIR
EXPERIMENTAL - TABLE (14 VALUES)
APPARATUS
FRENCH, ABSTRACT IN GERMAN

148A MATHIAS, E. AND CROMMELIN, C.A.
REPORT ON THE WORK DONE IN THE LEIDEN CRYOGENIC LABORATORY CONCERNING THE EQUATION OF STATE OF ARGON, NEON AND HYDROGEN BETWEEN THE THIRD AND THE FOURTH INTERNATIONAL CONGRESS OF REFRIGERATION
PROC. INTERN. CONGR. REFRIG. 4TH CONGR. LONDON 89-106 (1924)

CRITICAL POINT, BOILING POINT (NORMAL), TRIPLE POINT
OXYGEN, NITROGEN, HELIUM
REVIEW - TABLE (3 VALUES)

149 MATHIAS, E., CROMMELIN, C.A. AND ONNES, H.K.
LA CHALEUR DE VAPORISATION ET LA DIFFERENCE M'-M DES CHALEURS SPECIFIQUES A L'ETAT DE SATURATION POUR L'ARGON, L'OXYGENE, L'AZOTE ET L'HYDROGENE
THE HEAT OF VAPORIZATION AND THE DIFFERENCE OF SPECIFIC HEATS AT SATURATION CONDITIONS FOR ARGON, OXYGEN, NITROGEN AND HYDROGEN
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.162A (1922)
REPRINTED FROM ANN. PHYS. (9E) VOL.19, 239-47 (1923)

SPECIFIC HEAT (P=CONSTANT), PHASE TRANSITION HEATS (63 TO 153 DEGREES K AND 0.01 TO 46 ATM.)
EXPERIMENTAL - TABLE (7 VALUES), EQUATIONS
FRENCH

150 MATHIAS, E. AND ONNES, H.K.
RECTILINEAR DIAMETER FOR OXYGEN
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO. 117 (1911)

DENSITY, VAPOR PRESSURE, RECTILINEAR DIAMETER (63 TO 153 DEGREES K AND 0.01 TO 46 ATM.), CRITICAL CONSTANTS
EXPERIMENTAL - TABLE (7 VALUES), GRAPH, EQUATIONS
APPARATUS

150A MC KINLEY, C. AND WANG, E.S.J.
HYDROCARBON-OXYGEN SYSTEMS SOLUBILITY
P. 11-25 IN ADVANCES IN CRYOGENIC ENGINEERING, VOL.4, PROCEEDINGS OF THE 1958 CRYOGENIC ENGINEERING CONFERENCE AT MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS., TIMMERHAUS, K.D., EDITOR, PLENUM PRESS, INC., NEW YORK (1960) 498 P.

SOLUBILITY OF OXYGEN IN METHANE, ETHANE, ETHYLENE, PROPANE, PROPYLENE, OZONE, ISOBUTANE, N-BUTANE, NEO-PENTANE, N-PENTANE, N-HEXANE, N-DECANE, BUTENE-1, PENTENE-1, ISO-BUTYLENE, PENTENE-2, HEXENE-1, OCTENE-1 (55 TO 111 DEGREES K)
EXPERIMENTAL - GRAPHS
COMPILATION - DATA FROM 62A, 62D, 111A, 202A
APPARATUS

151 MEYERS, C. H.
PRESSURE - VOLUME - TEMPERATURE DATA FOR OXYGEN
J. RESEARCH NATL. BUR. STANDARDS VOL.40, 457-66 (1948)

P-V-T, SECOND AND THIRD VIRIAL COEFFICIENTS, EQUATION OF STATE (100 TO 473 DEGREES K AND 0 TO 400 ATM.)
COMPILATION - DATA FROM 220

152 MILLAR, R.W. AND SULLIVAN, J.D.
THERMODYNAMIC PROPERTIES OF OXYGEN AND NITROGEN
U. S. BUR. MINES TECH. PAPER NO.424, 1-20 (1928)

P-V-T, HEAT CAPACITY (P=CONSTANT), VAPOR PRESSURE, PHASE TRANSITION HEATS, ENTROPY, HEAT CONTENT (ENTHALPY) (90.15 TO 300 DEGREES K AND 1 TO 62.43 ATM.)
COMPILATION - DATA FROM 2, 39, 50, 150, 162, 184

153 MILLS, R.L. AND GRILLY, E.R.
MELTING CURVES FOR HELIUM 3, HELIUM 4, HYDROGEN, DEUTERIUM, NEON, NITROGEN AND OXYGEN UP TO 3500 KG/SQUARE CENTIMETERS
PHYS. REV. VOL.99, NO.2, 480-6 (1955)

MELTING POINT (54 TO 85 DEGREES K AND 0 TO 4000 ATM.)
EXPERIMENTAL - GRAPHS, EQUATIONS
APPARATUS

153A MOESSEN, G.W.
THE THERMODYNAMIC TEMPERATURE SCALE BELOW 90 DEGREES K. THE NORMAL BOILING POINT OF OXYGEN ON THE THERMODYNAMIC SCALE. THE NORMAL BOILING POINT OF NORMAL HYDROGEN ON THE THERMODYNAMIC SCALE
PENNSYLVANIA STATE UNIVERSITY, STATE COLLEGE, PA. PH.D. THESIS (1955)
88 P. UNIVERSITY MICROFILMS, ANN ARBOR, MICH.

BOILING POINT (NORMAL)
EXPERIMENTAL - TABLE (1 VALUE)
APPARATUS

154 MOLES, E. AND SALAZAR, M.T.
LA RELACION DE DENSIDADES NORMALES DE CARBON OXYDE Y OXYGEN. PESOS ATOMICOS DEL CARBANO Y DEL NITROGENO
THE RELATION BETWEEN THE NORMAL DENSITIES OF CARBON MONOXIDE AND OXYGEN. THE ATOMIC WEIGHT OF CARBON AND NITROGEN
ANALES REAL SOC. ESPAN. FIS. Y QUIM. VOL.32, 954-78 (1934)

DENSITY (200 TO 258 DEGREES K AND 0.5 TO 1 ATM.)
EXPERIMENTAL - TABLES (7 VALUES)
THEORETICAL - EQUATIONS
APPARATUS
SPANISH

155 MONROE, A.G., BRISTOW, H.A.S. AND NEWELL, J.E.
HEAT TRANSFER TO BOILING LIQUIDS AT LOW TEMPERATURES AND ELEVATED PRESSURES
J. APPL. CHEM. (LONDON) VOL.2, 613-24 (1952)

HEAT TRANSFER COEFFICIENT (100 TO 150 DEGREES K AND 1 TO 150 ATM.)
OXYGEN, NITROGEN
EXPERIMENTAL - GRAPHS
APPARATUS

155A MULLINS, J.C., ZIEGLER, W.T. AND KIRK, B.S.
THERMODYNAMIC PROPERTIES OF OXYGEN FROM 20 TO 100 DEGREES K
ENGINEERING EXPERIMENT STATION, GEORGIA INSTITUTE OF TECHNOLOGY,
ATLANTA, GEORGIA. TECHNICAL REPORT ON PROJECT NO. A-593 ON
CONTRACT NO. CST - 7339, NATIONAL BUREAU OF STANDARDS, CRYOGENIC
ENGINEERING LABORATORY, BOULDER, COLORADO
(TO BE PUBLISHED IN 1962)

THIS REPORT WILL INCLUDE A T-S DIAGRAM (0 TO 100 DEGREES K AND 0 TO 2.5 ATM.)

155B NASON, W.C.
SOME PHYSICAL PROPERTIES OF AIR AND ITS COMPONENTS
AERO MEDICAL LAB. WRIGHT FIELD, DAYTON, OHIO
CONTRACT NO. W 33-038 AC-2031
CONTRACTOR. MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS.

DENSITY (20.7, 90, AND 273 DEGREES K AND 1 ATM.), THERMAL CONDUCTIVITY (273 DEGREES K AND 1 ATM.), HEAT OF VAPORIZATION (90 TO 154 DEGREES K AND 1 TO 50 ATM.), VAPOR PRESSURE (54 TO 154 DEGREES K AND 0 TO 50 ATM) HEAT CAPACITY (P=CONSTANT)(13 TO 400 DEGREES K), VISCOSITY (54 TO 300 DEGREES K), BOILING POINT (NORMAL), FREEZING POINT, CRITICAL POINT, TRIPLE POINT
OXYGEN, CARBON DIOXIDE, ARGON, NITROGEN, HYDROGEN, HELIUM
COMPILATION - DATA FROM 75, 92, 117, 180, 179

156 NIJHOFF, G.P. AND KEESOM, W.H.
ISOTHERMS OF DIATOMIC SUBSTANCES AND THEIR BINARY MIXTURES.
XXXIII. ISOTHERMS OF OXYGEN BETWEEN -40 AND -152.5 DEGREES C AND 3 TO 9 ATM.
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.179B (1925)
TRANSLATED FROM VERSLAG GEWONE VERGADER. AFDEEL. NATUURK. KONINKL. AKAD. WETENSCHAP. AMSTERDAM VOL.34, 905-912 (1925)

P-V-T (120 TO 230 DEGREES K AND 3 TO 9 ATM.)
EXPERIMENTAL - TABLES (57 VALUES), GRAPH
APPARATUS

157 NISSAN, A.H.
VISCOSITY - TEMPERATURE FUNCTIONS OF LIQUIDS
PHIL. MAG. VOL.32, 441-56 (1941)

VISCOSITY (45 TO 90 DEGREES K AND 1 ATM.)
OXYGEN AND APPROXIMATELY 75 OTHER ELEMENTS AND COMPOUNDS
THEORETICAL - GRAPH, EQUATIONS

157A NOEGGERATH, W.C.
SIMPLIFIED METHOD FOR RATING LIQUID ROCKET PROPELLANTS
HEADQUARTERS AIR MATERIAL COMMAND, WRIGHT-PATTERSON AIR FORCE BASE,
DAYTON, OHIO, TECH. REPT. NO. F-TR-2191-ND (1948) 16 P.
ASTIA ATI-26852

DENSITY, HEAT OF FORMATION, HEAT OF VAPORIZATION (90 DEGREES K AND 1 ATM.), ENTHALPY (90 TO 273 DEGREES K)
OXYGEN AND 40 ROCKET OXIDANTS AND PROPELLANTS
COMPILATION - SOURCE NOT INDICATED

158 NOMOTO, O. AND KISHIMOTO, T.
ON MOLECULAR SOUND VELOCITY OF LIQUIDS. III. CONSIDERATION ON RAO'S RELATION ON THE DEPENDENCE OF MOLECULAR SOUND VELOCITY ON CRITICAL CONSTANTS
J. PHYS. SOC. JAPAN VOL.9, 73-77 (1954)

DENSITY, EQUATION OF STATE, SPECIFIC HEAT RATIOS, SONIC VELOCITY, CRITICAL CONSTANTS (TEMPERATURE AND PRESSURE NOT STATED)
OXYGEN, NITROGEN, HYDROGEN, ARGON, HELIUM, METHANE, AND 29 ORGANIC LIQUIDS
THEORETICAL - EQUATIONS

58A NUTTALL, R.L.
THERMAL PROPERTIES OF GASES, TABLE 9.42. MOLECULAR OXYGEN. THERMAL CONDUCTIVITY
NATL. BUR. STANDARDS, HEAT AND POWER DIVISION
REPRINTED IN 96

159 OLSZEWSKI, C.
ON THE LIQUEFACTION OF GASES
PHIL. MAG. (5), VOL.39, 188-212 (1895)

DENSITY (90 DEGREES K AND 1 ATM.), CRITICAL POINT, BOILING POINT
OXYGEN, OZONE AND 17 OTHER GASES
EXPERIMENTAL
APPARATUS

160 ONNES, H.K. AND BRAAK, C.
ON THE MEASUREMENT OF VERY LOW TEMPERATURES. XXI. ON THE STANDARDIZING OF TEMPERATURES BY MEANS OF BOILING POINTS OF PURE SUBSTANCES. THE DETERMINATION OF THE VAPOR PRESSURE OF OXYGEN AT THREE TEMPERATURES
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.107A (1908)
TRANSLATED FROM VERSLAG GEWONE VERGADER. AFDEEL. NATUURK. KONINKL. AKAD. WETENSCHAP. AMSTERDAM 86-93 (1908)

VAPOR PRESSURE (84 TO 91 DEGREES K AND 0.5 TO 1.1 ATM.), BOILING POINT (NORMAL)
EXPERIMENTAL - TABLES (4 VALUES)

161 ONNES, H.K. AND CROMMELIN, C.A.
ISOTHERMS OF MONATOMIC SUBSTANCES AND OF THEIR BINARY MIXTURES. XI REMARKS UPON THE CRITICAL TEMPERATURE OF NEON AND UPON THE MELTING POINT OF OXYGEN
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.121C (1911)
VERSLAG GEWONE VERGADER. AFDEEL. NATUURK. KONINKL. AKAD. WETENSCHAP. AMSTERDAM VOL.27, 73-4 (1911)

MELTING POINT (55 DEGREES K AND NEAR 0.002 ATM.)
EXPERIMENTAL - TABLE (1 VALUE)

162 ONNES, H.K., DORSMAN, C. AND HOLST, G.
ISOTHERMALS OF DI-ATOMIC GASES AND THEIR BINARY MIXTURES XV. VAPOR-PRESSURES AND CRITICAL POINT OF OXYGEN AND NITROGEN
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.145B (1914)
TRANSLATED FROM VERSLAG GEWONE VERGADER. AFDEEL. NATUURK. KONINKL. AKAD. WETENSCHAP. AMSTERDAM 982-5 (1914)

VAPOR PRESSURE (118 TO 154 DEGREES K AND 9 TO 50 ATM.), CRITICAL POINT
EXPERIMENTAL - TABLES (13 VALUES)

163 ONNES, H.K. AND KUYPERS, H.A.
ISOTHERMS OF DIATOMIC SUBSTANCES AND THEIR BINARY MIXTURES. XXV. ON THE ISOTHERMS OF OXYGEN AT LOW TEMPERATURES
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.169A (1924)
PROC. INTERN. CONGR. REFRIG. 4TH CONGR., LONDON VOL.1, 65A (1924)

P-V-T (156 TO 233 DEGREES K AND 20 TO 60 ATM.)
EXPERIMENTAL - TABLE (76 VALUES), GRAPH

164 ONNES, H.K. AND PERRIER, A.
RESEARCHES ON THE MAGNETIZATION OF LIQUID AND SOLID OXYGEN
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.116 (1910)
TRANSLATED FROM VERSLAG GEWONE VERGADER. AFDEEL. NATUURK. KONINKL. AKAD. WETENSCHAP. AMSTERDAM 937-73 (1910)

MAGNETISM (14 TO 90 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLES (20 VALUES), EQUATION
APPARATUS

165 ORLICEK, A.F.
GRAPHISCHE UMRECHNUNGSBILDER (NOMOGRAMM NR. 26) DIE DYNAMISCHE VISKOSITAT VON GASEN
THE DYNAMIC VISCOSITY OF GASES. NOMOGRAM NO. 26
MITT. CHEM. FORSCHUNGS-INST. WIRTSCH. OSTERR. VOL.8, 150-1 (1954)

VISCOSITY (173 TO 1273 DEGREES K AND 1 ATM.)
OXYGEN AND 34 OTHER GASES
COMPILATION - SOURCES NOT GIVEN
GERMAN

165A ORLOVA, M.P.
REPRODUCIBILITY OF THE BOILING TEMPERATURE OF OXYGEN
MEAS. TECH. SOVIET J. NO. 5, 330-3 (1959)
TRANSLATED FROM IZMERITELNAYA TEKH.

BOILING POINT (NORMAL)
EXPERIMENTAL

166 PAOLUZI, G.
SU UNA NUOVA COSTANTE ISOTERMA DEI GAS
ON A NEW ISOTHERMAL CONSTANT OF GASES
ANN. GEOFIS. (ROME) VOL.10, 241-5 (1957)

P-V-T (233 TO 473 DEGREES K AND 21 TO 400 ATM.), CRITICAL CONSTANT
OXYGEN, NITROGEN, NEON, CARBON MONOXIDE, METHANE
THEORETICAL - EQUATIONS
COMPILATION - DATA FROM 163
ITALIAN

167 PERRIER, A. AND ONNES, H.K.
MAGNETIC INVESTIGATIONS XIII. THE SUSCEPTIBILITY OF LIQUID
MIXTURES OF OXYGEN AND NITROGEN, AND THE INFLUENCE OF THE MUTUAL
DISTANCES OF THE MOLECULES UPON PARAMAGNETISM
COMMUNS. PHYS. LAB. UNIV. LEIDEN NO.139D (1914)
TRANSLATED FROM VERSLAG . GEWONE VERGADER. AFDEEL. NATUURK. KONINKL.
ACAD. WETENSCHAP. AMSTERDAM 1012-27 (1914)

MAGNETIZATION, MAGNETIC SUSCEPTIBILITY (64.2 TO 77.4 DEGREES K
AND 0.13 TO 1 ATM.)
EXPERIMENTAL - TABLES (13 VALUES), GRAPHS, EQUATIONS
THEORETICAL - EQUATIONS
APPARATUS

168 PICKERING, S.F.
A REVIEW OF THE LITERATURE RELATING TO CRITICAL CONSTANTS
OF VARIOUS GASES
SCIENTIFIC PAPERS OF THE BUREAU OF STANDARDS VOL.21, 597-629 (1926)

CRITICAL CONSTANTS
OXYGEN + 31 GASES
COMPILATION - DATA FROM 26, 43, 148, 150, 159, 162, 234

169 PITT, A. AND JACKSON, W.J.
MEASUREMENTS OF THE VELOCITY OF SOUND IN LOW TEMPERATURE LIQUIDS AT
ULTRASONIC FREQUENCIES
CAN. J. RESEARCH VOL.12, 686-9 (1935)

VELOCITY OF SOUND (90 AND 273 DEGREES K AND 1 ATM.)
OXYGEN, HYDROGEN
EXPERIMENTAL - TABLE (3 VALUES)
APPARATUS

170 POOL, R.A.H., SHIELDS, B.D.C. AND STAVELEY, L.A.K.
THE TRIPLE POINT OF ARGON AS A THERMOMETRIC FIXED POINT
NATURE VOL.181, 831 (1958)

VAPOR PRESSURE (83.8 DEGREES K AND .485 ATM.), BOILING POINT (NORMAL)
OXYGEN
EXPERIMENTAL - TABLE (2 VALUES)

171 POOL, R.A.H. AND STAVELEY, L.A.K.
EXCESS VOLUMES IN BINARY LIQUID MIXTURES OF SIMPLE MOLECULES
NATURE VOL.180, 1118-20 (1957)

EXCESS VOLUME OR CONTRACTION ON MIXING FOR BINARY SYSTEM ARGON-OXYGEN
(83.78 AND 90 DEGREES K AND 1 ATM.)
ARGON-OXYGEN, ARGON-NITROGEN
EXPERIMENTAL - GRAPH

172 POPOVICI, M.S. AND POP, M.
SUR LE POINT DE FUSION ET LES FORCES INTERMOLECULAIRES
ON THE MELTING POINT AND INTERMOLECULAR FORCES
COMPT. REND. VOL.246, 2609-11 (1958)

MELTING POINT (NORMAL) AND INTERMOLECULAR FORCES
OXYGEN, NITROGEN, XENON, KRYPTON, ARGON, HELIUM, THE HALOGENS, AND
SOME ORGANIC COMPOUNDS
THEORETICAL - GRAPH
FRENCH

172A PRIKHOTKO, A. AND YAVNEL, A.
INVESTIGATION OF SOLID MIXTURES OF OXYGEN AND NITROGEN
ACTA PHYSICOCHIM. U.R.S.S. VOL.11, 783-96 (1939)

TRANSFORMATION BOUNDARIES, ABSORPTION BANDS (SPECTROSCOPIC)
FOR BINARY MIXTURE OXYGEN-NITROGEN (20 TO 65 DEGREES K)
EXPERIMENTAL - TABLES (55 VALUES), GRAPH
APPARATUS

173 PROSAD, S.
THERMAL CONDUCTIVITY OF LIQUID OXYGEN
BRIT. J. APPL. PHYS. VOL.3, 58-9 (1952)

THERMAL CONDUCTIVITY, HEAT TRANSFER COEFFICIENT (91 TO 94 DEGREES K
AND 1 ATM.)
EXPERIMENTAL - TABLE (15 VALUES), GRAPH

174 REILLY, M.L. AND FURUKAWA, G.T.
SURFACE TENSION OF OXYGEN, NITROGEN AND THEIR MIXTURES
NATL. BUR. STANDARDS U.S. REPT. 3958, 39 P. (1955)
ASTIA AD NO. 67828

SURFACE TENSION FOR BINARY MIXTURE OXYGEN-NITROGEN (70 TO 90 DEGREES K)
DENSITY (67 TO 88 DEGREES K)
EXPERIMENTAL - TABLES (117 VALUES), GRAPHS
COMPILATION - DATA FROM 9, 106
APPARATUS

175 RIPS, S.M.
THERMODYNAMIC STUDY OF GASIFICATION OF LIQUID OXYGEN
INZHENER. FIZ. ZHUR. VOL.3, NO.2, 41-5 (1960)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS
COMPLETED BUT THE TRANSLATION OF THE PAPER COULD NOT BE OBTAINED
IN TIME TO INCLUDE A LISTING OF ITS CONTENTS.
RUSSIAN

175A RIVKIN, S.L.
TABLES OF THERMODYNAMIC PROPERTIES OF GASES
IZVEST. VSESOYUZ. TEPLOTEKH. INST. IM. FELIKSA DZERZHINSKOGO VOL.21, 8-11 (1952)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS COMPLETED AND THE TRANSLATION OF THE PAPER COULD NOT OBTAINED IN TIME TO INCLUDE A LISTING OF THE CONTENTS.
RUSSIAN

175B RODEBUSH, W.H., ANDREWS, J.W. AND TAYLOR, J.B.
THE TEMPERATURE-ENTROPY DIAGRAMS FOR NITROGEN AND OXYGEN
J. AM. CHEM. SOC. VOL.47, 313-9 (1925)

ENTHALPY (90 TO 154 DEGREES K AND 50 ATM.), HEAT OF VAPORIZATION,
ENTROPY (110 TO 150 DEGREES K AND 5 TO 50 ATM.)
EXPERIMENTAL - TABLES (25 VALUES), GRAPH
APPARATUS

176 ROSSINI, F.D., WAGMAN, D.D., EVANS, W.H., LEVINE, S. AND JAFFE, I.
SELECTED VALUES OF CHEMICAL THERMODYNAMIC PROPERTIES
NATL. BUR. STANDARDS (U.S.) CIRC. 500, REPRINTED IN 1961 IN TWO PARTS AND AVAILABLE FROM U.S. GOVT. PRINTING OFFICE, WASHINGTON 25, D.C.
PART 1, CATALOG NO. C13.4.500/PT. 1, PART 2, CATALOG NO. C13.4.500/PT.2

HEAT OF FORMATION AT 0 DEGREES K, ENTHALPY, FREE ENERGY, AND EQUILIBRIUM CONSTANT OF FORMATION, ENTROPY AND HEAT CAPACITY AT 298.16 DEGREES K, ENTHALPY, TEMPERATURE, AND ENTROPY OF TRANSITION, FUSION AND VAPORIZATION
BOOK

177 ROWLINSON, J. S. AND TOWNLEY, J. R.
APPLICATION OF THE PRINCIPLE OF CORRESPONDING STATES TO THE TRANSPORT PROPERTIES OF GASES
TRANS. FARADAY SOC. VOL.49, 20-7 (1953)

VISCOSITY, SELF-DIFFUSION COEFFICIENTS, SECOND VIRIAL COEFFICIENTS (75 TO 300 DEGREES K)
OXYGEN, 17 OTHER GASES
THEORETICAL - EQUATIONS, GRAPHS
COMPILATION - DATA FROM 100, 117, 224

178 RUDENKO, N.S.
MOLECULAR WEIGHT, DENSITY AND VISCOSITY OF LIQUIFIED GASES
ZHUR. TEKH. FIZ. VOL.18, 1123-6 (1948)

DENSITY, VISCOSITY (0 TO 150 DEGREES K), MOLECULAR WEIGHT
OXYGEN, NITROGEN, HYDROGEN, ARGON, METHANE, CHLORINE, ETHYLENE, CARBON MONOXIDE, DEUTERIUM
EXPERIMENTAL - GRAPHS, EQUATIONS
RUSSIAN

179 RUDENKO, N.S.
THE VISCOSITY OF LIQUID OXYGEN, NITROGEN, METHANE, ETHYLENE AND AIR
ZHUR. EKSP. I THEORET. FIZ. VOL.9, 1078-80 (1939)

VISCOSITY (77.35 TO 154.2 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLES (9 VALUES), GRAPHS
APPARATUS
RUSSIAN

180 RUDENKO, N.S. AND SCHUBNIKOW, L.W.
DIE VISKOSITAT VON FLUSSIGEM STICKSTOFF, KOHLENOXYD, ARGON UND SAUERSTOFF IN ABHANGIGKEIT VON DER TEMPERATUR
THE VISCOSITY OF LIQUID NITROGEN, CARBON MONOXIDE, ARGON AND OXYGEN IN DEPENDENCY OF THE TEMPERATURE
PHYSIK. Z. SOWJETUNION VOL.6, 470-7 (1934)

VISCOSITY (54.4 TO 90.1 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLES (18 VALUES), GRAPH
GERMAN

180A RUHEMANN, M.
EQUILIBRIUM CURVES OF LOW MELTING MIXTURES
PHYSIK. Z. SOWJETUNION VOL.16, 67-82 (1936)

TWO PHASE EQUILIBRIUM, SPECIFIC HEAT OF BINARY MIXTURES OXYGEN-ARGON AND OXYGEN-NITROGEN (50 TO 80 DEGREES K)
OXYGEN-ARGON, ARGON-NITROGEN, CARBON MONOXIDE-NITROGEN, OXYGEN-NITROGEN AND METHANE-ETHYLENE
EXPERIMENTAL - GRAPHS
APPARATUS

180B RUHEMAN, M., LICHTER, A. AND KOMAROW, P.
ZUSTANDSDIAGRAMME NIEDRIG SCHMELZENDER GEMISCHE II. DAS SCHMELZDIAGRAMM SAUERSTOFF-STICKSTOFF UND DAS ZUSTANDSDIAGRAMM STICKSTOFF-KOHLENOXYD
THE PHASE DIAGRAMS OF LOW-MELTING MIXTURES II. THE MELTING DIAGRAM OF OXYGEN-NITROGEN AND THE PHASE DIAGRAM OF NITROGEN-CARBON MONOXIDE
PHYS. ZEIT. DER SOWJETUNION VOL.8, 326-36 (1935)

MELTING POINT CURVES OF BINARY MIXTURE OXYGEN-NITROGEN (54 TO 63 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (26 VALUES), GRAPHS
GERMAN

180C SAGENKAHN, M.L. AND FINK, H.L.
VAPOR-LIQUID EQUILIBRIUM FOR THE SYSTEM OXYGEN-NITROGEN-ARGON
PENN. STATE COLLEGE, STATE COLLEGE, PA., OSRD REPT. NO. 4493 (1945)
74 P.

VAPOR PRESSURE FOR BINARY SYSTEM OXYGEN-ARGON (89 TO 97 DEGREES K AND 1 TO 2 ATM.), VAPOR PRESSURE FOR BINARY SYSTEM OXYGEN-NITROGEN AND FOR TERNARY SYSTEM ARGON-OXYGEN-NITROGEN (80 TO 97 DEGREES K AND 1 TO 2 ATM.)
EXPERIMENTAL - TABLES (140 VALUES), GRAPHS
COMPILATION - DATA FROM 51
APPARATUS

181 SAKIADIS, C. AND COATES, J.
A LITERATURE SURVEY OF THE THERMAL CONDUCTIVITY OF LIQUIDS
LOUISIANA STATE UNIV. ENG. EXPT. STA. BULL. NO.34, 1-70 (1952)
BATON ROUGE, LA.

THERMAL CONDUCTIVITY (67 TO 96 DEGREES K)
OXYGEN, 10 INORGANIC COMPOUNDS, 118 ORGANIC COMPOUNDS AND MIXTURES
COMPILATION - DATA FROM 87, 173

181A SARNER, S.
ASTRONAUTIC DATA SHEET - PROPELLANTS
ASTRONAUTICS 46 (1960)

DENSITY, VISCOSITY (273 DEGREES K AND 1 ATM.), THERMAL CONDUCTIVITY
(67 TO 95 DEGREES K) VAPOR PRESSURE, LATENT HEATS, HEAT CAPACITY,
NORMAL BOILING POINT, FREEZING POINT, CRITICAL POINT
COMPILATION - SOURCES NOT STATED
OXYGEN

182 SCALA, S.M. AND BAULKNIGHT, C.W.
TRANSPORT AND THERMODYNAMIC PROPERTIES IN A HYPERSONIC LAMINAR
BOUNDARY LAYER. PART I. PROPERTIES OF THE PURE SPECIES
J. AM. ROCKET SOC. VOL.29, 39-45 (1959)

VISCOSITY, SPECIFIC HEATS, ENTHALPY, DIFFUSION COEFFICIENTS
(0 TO 10,000 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN
THEORETICAL - TABLES (14 VALUES), GRAPHS, EQUATIONS

183 SCHAEFER, C. A. AND THODOS, G.
THERMAL CONDUCTIVITY OF DIATOMIC GASES - LIQUID AND GASEOUS
STATES
A. I. CH. E. JOURNAL VOL.5, NO.3, 367-72 (1959)

THERMAL CONDUCTIVITY (60 TO 600 DEGREES K AND 0.015 TO 96 ATM.),
DENSITY
OXYGEN AND 11 OTHER GASES
THEORETICAL - EQUATIONS, GRAPHS
COMPILATION - DATA FROM 3, 18, 21, 59, 60, 63, 87, 116, 173, 237

184 SCHEEL, K. AND HEUSE, W.
DIE SPEZIFISCHE WARME VON HELIUM UND EINIGEN ZWEIATOMIGEN GASEN
THE SPECIFIC HEAT OF HELIUM AND CERTAIN DIATOMIC GASES
ANN. PHYSIK (4), VOL.40, 473-92 (1913)

SPECIFIC HEAT (P=CONSTANT) (90 TO 293 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, HELIUM, CARBON MONOXIDE, HYDROGEN, AIR
EXPERIMENTAL - TABLE (26 VALUES)
APPARATUS
GERMAN

185 SCHMIDT, W.
DRUCK UND TEMPERTAUR AN DER SATTIGUNGSGRENZE BEI EINIGEN ELEMENTEN UND BEI WASSER
PRESSURE AND TEMPERATURE AT THE SATURATION LINE FOR CERTAIN ELEMENTS AND FOR WATER
ARCH. WARMEWIRTSCH. U. DAMPFKESSELW. VOL.22, 85 (1941)

VAPOR PRESSURE
OXYGEN, NITROGEN, NEON, HYDROGEN, HELIUM
THEORETICAL - EQUATIONS
GERMAN

185A SCHUMACHER, H.J.
SOLUBILITY DIAGRAM AND THE TEMPERATURE COMPOSITION DIAGRAM AT ATMOSPHERIC PRESSURE OF LIQUID SYSTEM OZONE-OXYGEN
J. CHEM. PHYS. VOL.21, 1610-1 (1953)

VAPOR PRESSURE OF BINARY MIXTURE OZONE-OXYGEN (78 TO 92 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (5 VALUES), GRAPH

186 SCOTT, R.B.
CRYOGENIC ENGINEERING
D. VAN NOSTRAND COMPANY, INC., PRINCETON, NEW JERSEY (1959) 367 P.

DENSITY, COMPRESSIBILITY, HEAT CAPACITY, VISCOSITY, VELOCITY OF SOUND, VAPOR PRESSURE, THERMAL CONDUCTIVITY, HEAT OF VAPORIZATION, HEAT OF TRANSITION, ENTHALPY, TRIPLE POINT, TRANSITION POINTS, BOILING POINT, CRITICAL POINT
BOOK

187 SCOTT, R.B.
THE DENSITY OF LIQUID OXYGEN
NATL. BUR. STANDARDS (U.S.) REPT. 6752, 8 P. (1961)

DENSITY (70 TO 125 DEGREES K AND 0.1 TO 150 ATM.)
THEORETICAL - TABLES (177 VALUES), GRAPHS, EQUATIONS
COMPILATION - DATA FROM 150, 213

188 SHEARER, J.S.
THE HEAT OF VAPORIZATION OF OXYGEN, NITROGEN AND AIR
PHYS. REV. (1), VOL.17, NO.6, 469-75 (1903)

HEAT OF VAPORIZATION AND EQUILIBRIUM CONCENTRATIONS FOR BINARY MIXTURE OXYGEN AND NITROGEN (80 TO 91 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLES (22 VALUES), GRAPHS
APPARATUS

188A SHIMOKAWA, J.
CONDENSATION THEORY BY CELL METHOD AND CALCULATION OF THE CRITICAL TEMPERATURE OF VARIOUS GASES
BUSSEIRON KENKYU VOL.62, 138-51 (1953)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS COMPLETED AND THE TRANSLATION OF THE PAPER COULD NOT BE OBTAINED IN TIME TO INCLUDE A LISTING OF THE CONTENTS.
JAPANESE

189 SIEMENS, V.
VAPOR PRESSURE MEASUREMENTS AND THERMOMETRY AT LOW TEMPERATURES
ANN. PHYSIK VOL.42, 871-88 (1913)

VAPOR PRESSURE (57 TO 90 DEGREES K)
OXYGEN, CARBON DIOXIDE, CARBON DISULFIDE, AND NITROGEN
EXPERIMENTAL
CODED FROM ABSTRACT

190 SIMON, F. AND KIPPERT, F.
MESSUNGEN ZUR ZUSTANDSGLEICHUNG DES FESTEN ARGONS
MEASUREMENTS RELATIVE TO THE DETERMINATION OF THERMODYNAMIC
EQUATIONS OF SOLID ARGON
Z. PHYS. CHEM. VOL.135, 113-28 (1928)

SLOPE OF VAPOR PRESSURE CURVE (DP/DT) (62.7 TO 90.1 DEGREES K
AND 0.01 TO 1 ATM.)
OXYGEN, ARGON, METHANE, NITROGEN
EXPERIMENTAL - TABLES (20 VALUES)
APPARATUS
GERMAN

191 SRIVASTAVA, B.N. AND MADAN, M.P.
THE TEMPERATURE DEPENDENCE OF VISCOSITY OF NONPOLAR GASES
PROC. NATL. ACAD. SCI. INDIA VOL.21A, 254-60 (1952)

VISCOSITY, INTERMOLECULAR FORCE CONSTANT (100 TO 600 DEGREES K AND
1 ATM.)
OXYGEN, NITROGEN, NEON, ARGON
THEORETICAL - TABLES (11 VALUES), GRAPH, EQUATIONS

192 STAVELY, L.A.K. AND TUPMAN, W.I.
ENTROPIES OF VAPORIZATION AND INTERNAL ORDER IN LIQUIDS
J. CHEM. SOC. (LONDON) VOL.1950, 3597-3606 (1950)

ENTROPY (54 TO 90 DEGREES K AND 0.001 TO 1 ATM.)
OXYGEN + 53 GASES
THEORETICAL - GRAPH, EQUATIONS

193 STEWART, R.B. AND JOHNSON, V.J. (EDITORS)
A COMPENDIUM OF THE PROPERTIES OF MATERIALS AT LOW TEMPERATURE
(PHASE II.)
WRIGHT AIR DEVELOPMENT DIVISION TECHNICAL REPORT 60-56, PART IV (1961)
501 P.
NATIONAL BUREAU OF STANDARDS, CRYOGENIC LABORATORY, BOULDER, COLORADO

VELOCITY OF SOUND IN LIQUID AND GASEOUS OXYGEN, EQUILIBRIUM
CONCENTRATIONS OF NITROGEN-OXYGEN MIXTURES
COMPILATION - DATA FROM 211, 70, 206, 38C, 210, 96, 142, 5A, 51, 180C

194 STOCK, A., HENNING, F. AND KUSS, E.
DAMFDRUCKTATELN FUR TEMPERATURBESTIMMUNGEN ZWISCHEN +25 UND -185 DEGRES C
VAPOR PRESSURE TABLES FOR TEMPERATURE DETERMINATIONS BETWEEN 25 AND -185 DEGREES C
BER. DEUT. CHEM. GES. VOL.B54, 1119-29 (1921)

VAPOR PRESSURE (88 TO 94 DEGREES K AND 0.88 TO 1.5 ATM.)
OXYGEN AND 9 OTHER GASES
EXPERIMENTAL - TABLE (7 VALUES)
APPARATUS
GERMAN

194A SU, G.
MODIFIED LAW OF CORRESPONDING STATES FOR REAL GASES
IND. ENG. CHEM. VOL.38, 803-6 (1946)

COMPRESSIBILITY FACTOR (154 DEGREES K AND 50 ATM.)
OXYGEN, NITROGEN, CARBON DIOXIDE, WATER, METHANE AND 7 OTHER HYDROCARBONS
THEORETICAL - TABLE (1 VALUE), EQUATIONS

195 SU, G.J. AND CHANG, C.H.
GENERALIZED VAN DER WAALS EQUATION OF STATE OF REAL GASES
IND. ENG. CHEM. VOL.38, 800-2 (1946)

DENSITY, EQUATION OF STATE (156 TO 373 DEGREES K AND 0 TO 103 ATM.
OXYGEN + 9 GASES
THEORETICAL - TABLE, GRAPH, EQUATIONS

196 TIMROT, D.L. AND BORISOGLEBSKIY, V.P.
DETERMINATION OF THE DENSITY OF LIQUID OXYGEN OVER A WIDE RANGE OF TEMPERATURES
TEPLOENERGETIKA VOL.10, 95-6 (1960)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS COMPLETED AND THE TRANSLATION OF THE PAPER COULD NOT BE OBTAINED IN TIME TO INCLUDE A LISTING OF THE CONTENTS.
RUSSIAN

197 TIMROT, D. L. AND BORISOGLEBOSKIY, V. P.
AN EXPERIMENTAL INVESTIGATION OF THE DENSITY OF LIQUID OXYGEN AT TEMPERATURES OF FROM -190 TO -120 DEGREES C AND PRESSURES TO 200 KG/CM SQUARED. INCLUDING THE SATURATION CURVE
INZHENERN. FIZ. ZHUR. AKAD. NAUK BELORUS. S.S.R. VOL.4, 3-13 (1961)
TRANSLATION AVAILABLE FROM, OFFICE OF TECHNICAL SERVICES, U.S. DEPARTMENT OF COMMERCE, WASHINGTON 25, D.C., NO. 6121722

DENSITY (83 TO 153 DEGREES K AND 0 TO 200 ATM.)
EXPERIMENTAL - TABLES (300 VALUES), GRAPHS
APPARATUS
RUSSIAN

198 TIMROT, D.L. AND BORISOGLEBSKII, V.P.
MEASUREMENT OF THE DENSITY OF LIQUID OXYGEN BY THE SATURATION CURVE
ZHUR. EKSPTL. I TEORET. FIZ. VOL.38, 1729-32 (1960)

DENSITY
EXPERIMENTAL - TABLES (10 VALUES)
APPARATUS
RUSSIAN
CODED FROM ABSTRACT

199 TKACHENKO, E.A.
PRESSURE - DENSITY - TEMPERATURE RELATIONSHIP OF LIQUID OXYGEN
J. AM. ROCKET SOC. VOL.30, NO.6, 566-8 (1960)

P-V-T, EQUATION OF STATE, COMPRESSIBILITY (61 TO 117 DEGREES K AND 0.01 TO 200 ATM.)
THEORETICAL - TABLE (15 VALUES), GRAPH, EQUATIONS

199A TREPP, C.
DIE HARTE VON STICKSTOFF, SAUERSTOFF, ARGON UND VON STICKSTOFF-SAUERSTOFF GEMISCHEN
THE HARDNESS OF NITROGEN, OXYGEN, ARGON AND OF NITROGEN-OXYGEN MIXTURES
SCHWEIZ. ARCH. ANGEW. WISS. U TECH. VOL.24, 191-200 (1958)

HARDNESS (4 TO 60 DEGREES K)
EXPERIMENTAL - GRAPHS
THEORETICAL
APPARATUS
GERMAN

199B TREPP, C.
DIE HARTE VON STICKSTOFF, SAUERSTOFF, ARGON UND VOM STICKSTOFF-SAUERSTOFF GEMISCHEN
THE HARDNESS OF NITROGEN, OXYGEN, ARGON AND OF NITROGEN-OXYGEN MIXTURES
SCHWEIZ. ARCH. ANGEW. WISS. U TECH. VOL.24, 230-9 (1958)

HARDNESS (4.16 TO 65 DEGREES K)
EXPERIMENTAL - GRAPHS
THEORETICAL - EQUATIONS
APPARATUS
GERMAN

200 TSEDERBERG, N.V.
THERMAL CONDUCTIVITY OF COMPRESSED GASES
TEPLOENERGETICA VOL.4, NO.1, 45-8 (1957)

THERMAL CONDUCTIVITY (73 TO 313 DEGREES K AND 1 TO 100 ATM.)
OXYGEN, NITROGEN, HYDROGEN, CARBON DIOXIDE, METHANE
COMPILATION - DATA FROM 87, 116
RUSSIAN

201 TSEDERBERG, N.V. AND TIMROT, D.L.
AN EXPERIMENTAL DETERMINATION OF THE THERMAL CONDUCTIVITY OF LIQUID OXYGEN
SOVIET PHYS. TECH. PHYS. VOL.1, 1791-7 (1956)
TRANSLATED FROM ZHUR. TEKH. FIZ. VOL.26, 1849-56 (1956)

THERMAL CONDUCTIVITY (73 TO 315 DEGREES K AND 1 TO 100 ATM.)
EXPERIMENTAL - TABLE (13 VALUES), GRAPHS, EQUATIONS
APPARATUS

202 TSIEN, H. S.
THE PROPERTIES OF PURE LIQUIDS
J. AM. ROCKET SOC. VOL.23, 17-24, 35 (1953)

SPECIFIC HEAT (P=CONSTANT) (73.2 DEGREES K)
OXYGEN AND 30 OTHER GASES
THEORETICAL - EQUATIONS, TABLE (1 VALUE)

202A TSIN, N.M.
SOLUBILITY OF ETHYLENE AND PROPYLENE IN LIQUID NITROGEN AND LIQUID OXYGEN
ZHUR. FIZ. KHIM. VOL.14, 418-21 (1940)
TRANSLATED BY ASSOCIATED TECHNICAL SERVICES RJ-1450
EAST ORANGE, NEW JERSEY

SOLUBILITY OF BINARY MIXTURES, ETHYLENE-OXYGEN AND PROPYLENE-OXYGEN (67 TO 101 DEGREES K)
EXPERIMENTAL -TABLE (10 VALUES), GRAPH
APPARATUS
RUSSIAN

202B TUYN, W.
SUR LA VITESSE DE PROPAGATION DU SON DANS LES GAZ AUX BASSES TEMPERATURES
THE VELOCITY OF SOUND IN GASES AT LOW TEMPERATURES
PROC. INTERN. CONGR. REFRIG. 7TH CONGR. THE HAGUE-AMSTERDAM (1936)
COMMUNS. KAMERLINGH ONNES LAB. LEIDEN NO. 234C, SUPPL. NO. 77B (1936)

SPECIFIC HEAT (P=CONSTANT AND V=CONSTANT), SPECIFIC HEAT RATIO, VIRIAL COEFFICIENTS (83.80 TO 90 DEGREES K)
OXYGEN, NEON
EXPERIMENTAL - TABLE (10 VALUES), GRAPHS
THEORETICAL - EQUATIONS
APPARATUS
FRENCH

203 VAN DIJK, H.
NOUVEAUX CALCULS DES POINTS FIXES IMPORTANTS DANS LE DOMAINE DES BASSES TEMPERATURES
NEW CALCULATIONS OF IMPORTANT FIXED POINTS IN THE LOW TEMPERATURE RANGE
PROCES-VERBAUX SEANCES COMITE INTERN. POIDS ET MEASURES (2), VOL.26A, 61-6 (1959)

BOILING POINT (NORMAL)
OXYGEN, HELIUM, HYDROGEN
COMPILATION - DATA FROM 7
FRENCH

204 VAN DIJK, H.
ON BEST VALUES FOR THE THERMODYNAMIC TEMPERATURES OF THERMOMETRIC FIXED POINTS BELOW 0 DEGREES C
P. 68 IN SYMPOSIUM ON TEMPERATURE, ITS MEASUREMENT AND CONTROL IN SCIENCE AND INDUSTRY, 4TH, COLUMBUS, OHIO (1961), C.M. HERZFELD, NATIONAL BUREAU OF STANDARDS (CHAIRMAN PROGRAM COMMITTEE), AMERICAN INSTITUTE OF PHYSICS, INSTRUMENT SOCIETY OF AMERICA NATIONAL BUREAU OF STANDARDS, 40 PAPERS, 116 P.

BOILING POINT (NORMAL)
OXYGEN, HYDROGEN, HELIUM
COMPILATION - DATA FROM 4, 7, 94

204A VAN ITTERBEEK, A.
DETERMINATIONS DES GRANDEURS THERMODYNAMIQUES ET CINETIQUES DES GAZ CONDENSES AUX BASSES TEMPERATURES
DETERMINATION OF THERMODYNAMIC AND KINETIC QUANTITIES OF GASES AND OF CONDENSED GASES AT LOW TEMPERATURES
NUOVO CIMENTO VOL.7, SUPPL.2, 218-28 (1958)

SECOND VIRIAL COEFFICIENT (78 TO 90 DEGREES K), SPECIFIC HEAT (V=CONSTANT AND P=CONSTANT) OF BINARY MIXTURE HYDROGEN - OXYGEN AND HELIUM - OXYGEN (0 TO 0.8 ATM.)
OXYGEN, HYDROGEN, HELIUM, FIVE ORGANIC COMPOUNDS, AND MIXTURES OF THE FIRST THREE GASES
EXPERIMENTAL - TABLE(7 VALUES), GRAPHS
APPARATUS
FRENCH

204B VAN ITTERBEEK, A.
SUR LA VISCOSITE DE L'OXYGEN GAZEUX AUX BASSES TEMPERATURES
REGARDING THE VISCOSITY OF GASEOUS OXYGEN AT LOW TEMPERATURES
PROC. INTERN. CONGR. REFRIG. 1ST CONGR. THE HAGUE-AMSTERDAM 81-5 (1936)

VISCOSITY (72, 90.1, 293.8 DEGREES K AND .07 TO 1.02 ATM.)
HYDROGEN, NITROGEN
EXPERIMENTAL - TABLES (25 VALUES), GRAPH

205 VAN ITTERBEEK, A.
VELOCITY AND ATTENUATION OF SOUND AT LOW TEMPERATURES
P. 355-80 IN PROGRESS IN LOW TEMPERATURE PHYSICS, C.J. GORTER, EDITOR
NORTH-HOLLAND PUBLISHING COMPANY, AMSTERDAM, NETHERLANDS (1957) P. 418

VELOCITY OF SOUND (61 TO 90 DEGREES K)
OXYGEN, NITROGEN, HYDROGEN, ARGON, HELIUM, METHANE
SURVEY

206 VAN ITTERBEEK, A. AND DE BOCK, A.
VELOCITY OF SOUND IN LIQUID OXYGEN
PHYSICA VOL.14, 542-4 (1948)

VELOCITY OF SOUND (73 TO 90 DEGREES K)
EXPERIMENTAL - TABLE (8 VALUES), GRAPHS

207 VAN ITTERBEEK, A., DE BOCK, A. AND VERHAEGEN, L.
VELOCITY OF SOUND IN LIQUID NITROGEN
PHYSICA VOL.15, 624-6 (1949)

VELOCITY OF SOUND, COMPRESSIBILITY (ADIABATIC) (60 TO 90 DEGREES K AND 0.01 TO 1 ATM.)
OXYGEN, METHANE
EXPERIMENTAL - TABLE (15 VALUES), GRAPHS

208 VAN ITTERBEEK, A. AND KEESOM, W.H.
MEASUREMENTS ON THE VISCOSITY OF OXYGEN GAS AT LIQUID OXYGEN TEMPERATURES
PHYSICA VOL.2, 97-103 (1935)
COMMUNS. KAMERLINGH ONNES LAB. UNIV. LEIDEN NO. 235A (1935)

VISCOSITY (80 TO 270 DEGREES K AND 0.05 TO 1 ATM.)
HYDROGEN, AIR, NITROGEN
EXPERIMENTAL - TABLES (10 VALUES), GRAPH
APPARATUS

DENSITY (80 TO 154 DEGREES K AND 0.3 TO 50 ATM.)

209 VAN ITTERBEEK, A. AND MARIENS, P.
MEASUREMENTS WITH ULTRA-SONICS ON THE VELOCITY AND ABSORPTION OF SOUND AT ORDINARY AND LOW TEMPERATURES
PHYSICA VOL.4, 207-15 (1937)

VELOCITY OF SOUND, ABSORPTION OF SOUND (90 AND 290 DEGREES K AND 0.1 TO 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN
EXPERIMENTAL - TABLE (13 VALUES), GRAPH
APPARATUS

209A VAN ITTERBEEK, A. AND MARIENS, P.
MEASUREMENTS ON THE VELOCITY AND ABSORPTION OF SOUND IN VARIOUS GASES BETWEEN +100 AND -100 DEGREES C. INFLUENCE OF PRESSURE ON THE ABSORPTION
PHYSICA VOL.4, 609-16 (1937)

ABSORPTION COEFFICIENT OF SOUND, VELOCITY OF SOUND, RATIO OF SPECIFIC HEATS (173 TO 373 DEGREES K AND 0.15 TO 1 ATM.)
OXYGEN, HYDROGEN, ARGON, CARBON MONOXIDE
EXPERIMENTAL - TABLES (29 VALUES), GRAPH

210 VAN ITTERBEEK, A. AND VAN DAEL, W.
MEASUREMENTS ON THE VELOCITY OF SOUND IN LIQUID OXYGEN AND NITROGEN AND MIXTURES OF NITROGEN AND OXYGEN UNDER HIGH PRESSURES
BULL. INST. INTERN. FROID 295-311 (1958)

VELOCITY OF SOUND FOR BINARY MIXTURES OF OXYGEN-NITROGEN (77 AND 90 DEGREES K AND 4 TO 74 ATM.)
EXPERIMENTAL - TABLES (32 VALUES), GRAPHS, EQUATIONS
APPARATUS

210A VAN ITTERBEEK, A. AND VAN DONINCK, W.
MEASUREMENTS ON THE VELOCITY OF SOUND IN MIXTURES OF HYDROGEN, HELIUM, OXYGEN, NITROGEN AND CARBON MONOXIDE AT LOW TEMPERATURES
PROC. PHYS. SOC. (LONDON) VOL.B62, 62-9 (1949)

VELOCITY OF SOUND (65 TO 90 DEGREES K AND 0.1 TO 0.4 ATM.)
EXPERIMENTAL - TABLE (35 VALUES), GRAPH, EQUATIONS

211 VAN ITTERBEEK, A. AND VAN PAEMEL, O.
MEASUREMENTS ON THE VELOCITY OF SOUND AS A FUNCTION OF PRESSURE IN OXYGEN GAS AT LIQUID OXYGEN TEMPERATURE
PHYSICA VOL.5, 593-603 (1938)

VIRIAL COEFFICIENTS, SPECIFIC HEAT (P=CONSTANT), VELOCITY OF SOUND (74 TO 90 DEGREES K AND 0.03 TO 1 ATM.)
EXPERIMENTAL - TABLES (68 VALUES), GRAPHS, EQUATIONS
APPARATUS

212 VAN ITTERBEEK, A. AND VAN PAEMEL, O.
BESTIMMUNG DER INNEREN REIBUNG VOM FLUSSIGEN WASSERSTOFF UND DEUTERIUM
DETERMINATION OF THE VISCOSITY OF LIQUID HYDROGEN AND DEUTERIUM
PHYSICA VOL.8, 133-43 (1941)

VISCOSITY (68.7 TO 90.25 DEGREES K)
OXYGEN
EXPERIMENTAL - TABLES (11 VALUES), GRAPH
APPARATUS
GERMAN

213 VAN ITTERBEEK, A. AND VERBEKE, O.
DENSITY OF LIQUID OXYGEN AS A FUNCTION OF PRESSURE AND TEMPERATURE
CRYOGENICS VOL.1, NO.2, 77-80 (1960)

P-V-T, VELOCITY OF SOUND, EXPANSION COEFFICIENT (64 TO 90 DEGREES K AND 0 TO 150 ATM.)
EXPERIMENTAL - TABLES (96 VALUES), GRAPH, EQUATIONS
APPARATUS

213A VAN ITTERBEEK, A. AND ZINK, J.
MEASUREMENTS ON THE VELOCITY OF SOUND IN OXYGEN GAS UNDER HIGH PRESSURE
APPL. SCI. RESEARCH (A) VOL.7, 375-85 (1958)

VELOCITY OF SOUND, SPECIFIC HEAT (V=CONSTANT AND P=CONSTANT)(RATIO) (232 TO 303 DEGREES K AND 1 TO 68 ATM.)
EXPERIMENTAL - TABLES (90 VALUES), GRAPH

214 VAN LAMMEREN, J.A.
SECOND VIRIAL COEFFICIENTS AND SPECIFIC HEATS OF OXYGEN
PHYSICA VOL.2, 833-9 (1935)

SECOND VIRIAL COEFFICIENT (0 TO 250 DEGREES K), SPECIFIC HEAT (P=CONSTANT) (V=CONSTANT) (77 TO 90 DEGREES K AND 0 TO 1 ATM.)
THEORETICAL - TABLES (30 VALUES), GRAPHS, EQUATIONS

215 VAN PAEMEL, O.
METINGEN EN THEORETISCHE BESCHOUWINGEN IN VERBAND MET DE
VISCOSITEIT VAN GASSEN EN GECONDENSEERDE GASSEN
MEASUREMENTS AND THEORETICAL CONSIDERATION OF THE VISCOSITY OF
GASES AND CONDENSED GASES
VERHANDL. KONINKL. VLAAM. ACAD. WETENSCHAP. BELG. (3), VOL.3,
3-59 (1941)

VISCOSITY (69 TO 90 DEGREES K)
OXYGEN, ARGON, NEON, HELIUM, HYDROGEN, DEUTERIUM
EXPERIMENTAL - TABLE (11 VALUES), GRAPHS
APPARATUS
DUTCH

215A VERHAEGEN, L.
METINGEN OVER DE VOORTPLANTHINGSSNELHEID VAN HET GELUID IN ENKELE
VLOEIBAAR GEMAAKTE GASSEN
MEASUREMENTS OF THE SPEED OF PROPAGATION OF SOUND IN SOME LIQUEFIED
GASES
VERHANDEL. KONINKL. VLAAM. ACAD. WETENSCHAP. VOL.38 (1952)

THIS CITATION CAME TO OUR ATTENTION AFTER THE BIBLIOGRAPHY WAS
COMPLETED AND THE TRANSLATION OF THE PAPER COULD NOT BE OBTAINED
IN TIME TO INCLUDE A LISTING OF THE CONTENTS.
DUTCH

216 VOGEL, H.
UBER DIE VISKOSITAT EINIGER GASE UND IHRE TEMPERATURABHANGIGKEIT
BEI TIEFEN TEMPERATUREN
THE VISCOSITY OF SOME GASES AND THEIR VARIATION WITH
TEMPERATURE AT LOW TEMPERATURES
ANN. PHYSIK (4), VOL.43, 1235-72 (1914)

VISCOSITY (81.6 TO 273.1 DEGREES K AND 0.3 TO 1 ATM.)
OXYGEN + 30 GASES
EXPERIMENTAL - TABLE (10 VALUES)
COMPILATION - DATA FROM 217
APPARATUS
GERMAN

217 VOLKER, E.
UBER DEN KOEFFIZIENTEN DER INNEREN REIBUNG VON SAUERSTOFF UND
WASSERSTOFF BEI NIEDEREN TEMPERATUREN
ABOUT THE COEFFICIENT OF VISCOSITY OF OXYGEN AND HYDROGEN
AT LOW TEMPERATURES
INAUG. DISS. HALLE A. S. 1910

VISCOSITY (110 TO 293 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLES (49 VALUES), GRAPH, EQUATIONS
GERMAN

218 WACKER, P.F., CHENEY, R.K. AND SCOTT, R.B.
HEAT CAPACITIES OF GASEOUS OXYGEN, ISOBUTANE AND 1-BUTANE FROM
30 TO 90 DEGREES C
J. RESEARCH NATL. BUR. STANDARDS VOL.38, 651-9 (1947) RP 1804

HEAT CAPACITY (P=CONSTANT) (243 TO 363 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLES (3 VALUES), GRAPH
APPARATUS

219 WAGMAN, D.D., KILPATRICK, J.E., TAYLOR, W.J., PITZER, K.S. AND ROSSINI, F.D.
HEATS, FREE ENERGIES AND EQUILIBRIUM CONSTANTS OF SOME REACTIONS INVOLVING OXYGEN, HYDROGEN, WATER, CARBON, CARBON MONOXIDE, CARBON DIOXIDE AND METHANE
J. RESEARCH NATL. BUR. STANDARDS VOL.34, NO.1, 143-61 (1945) RP1634

HEAT CAPACITY (P=CONSTANT), ENTROPY, HEAT CONTENT (ENTHALPY), FREE ENERGY (GIBBS FUNCTION) (0 TO 5000 DEGREES K AND 1 ATM.)
COMPILATION - DATA FROM 118

219A WANG, D.I.J.
VAPOR-LIQUID EQUILIBRIUM STUDIES ON THE SYSTEM ARGON-OXYGEN
P. 294-304 IN ADVANCES IN CRYOGENIC ENGINEERING, VOL. 3
PROCEEDINGS OF THE 1957 CRYOGENIC ENGINEERING CONFERENCE AT BOULDER, COLORADO, TIMMERHAUS, K.D., EDITOR
PLENUM PRESS, INC., NEW YORK (1960) 418P.

VAPOR PRESSURE OF BINARY SYSTEM ARGON-OXYGEN (90.6 TO 95.9 DEGREES K AND 1+ TO 2 ATM.)
EXPERIMENTAL - TABLE (35 VALUES), GRAPHS

220 WASHBURN, E.W. (EDITOR)
INTERNATIONAL CRITICAL TABLES
MC GRAW-HILL BOOK CO., INC., NEW YORK (1928)

P-V-T, DENSITY, THERMAL CONDUCTIVITY, HEAT CAPACITY, VAPOR PRESSURE COMPRESSIBILITY, VISCOSITY, TRIPLE POINT, TRANSITION POINT, MELTING POINT, BOILING POINT, SUBLIMATION POINT
BOOK

221 WEISHAUPT, J.
BESTIMMUNG DES GLEICHGEWICHTES SIEDENDER STICKSTOFF-ARGON-SAUERSTOFFGEMISCHE BEI 1000 TORR
DETERMINATION OF THE EQUILIBRIUM IN THE CASE OF BOILING NITROGEN-ARGON-OXYGEN MIXTURES AT 1000 MM HG.
ANGEW. CHEM. (B) VOL.20, 321-6 (1948)

VAPOR PRESSURE OF TERNARY SYSTEM NITROGEN-ARGON-OXYGEN (81 TO 91 DEGREES K AND 1.31 ATM.)
EXPERIMENTAL - TABLES (55 VALUES), GRAPHS
APPARATUS
GERMAN

222 WHALLEY, E.
THE VISCOSITY OF GASES AND THE THEORY OF CORRESPONDING STATES
CAN. J. CHEM. VOL.32, 485-91 (1954)

VISCOSITY (80 TO 1100 DEGREES K)
OXYGEN, NITROGEN, ARGON, XENON, CARBON MONOXIDE, KRYPTON, CHLORINE, METHANE
THEORETICAL - EQUATION, GRAPHS
COMPILATION - DATA FROM 83, 223

223 WHALLEY, E. AND SCHNEIDER, W.G.
THE LENNARD - JONES 12-6 POTENTIAL AND THE VISCOSITY OF GASES
J. CHEM. PHYS. VOL.20, 657-61 (1952)

VISCOSITY (80 TO 1100 DEGREES K AND 1 ATM.)
OXYGEN, NITROGEN, HYDROGEN, NEON, ARGON, HELIUM, CARBON DIOXIDE
THEORETICAL - TABLES (3 VALUES), GRAPH

224 WINN, E.B.
THE TEMPERATURE DEPENDENCE OF THE SELF-DIFFUSION COEFFICIENTS
OF ARGON, NEON, NITROGEN, OXYGEN, CARBON MONOXIDE AND METHANE
PHYS. REV. VOL.80, 1024-7 (1950)

SELF-DIFFUSION COEFFICIENTS (77 TO 353 DEGREES K AND 1 ATM.)
EXPERIMENTAL - TABLE (5 VALUES), EQUATIONS
APPARATUS

225 WITT, G.
UBER DIE VERDAMPFUNGSWARME FLUSSIGER LUFT
ON THE HEAT OF VAPORIZATION OF LIQUID AIR
ARKIV. MAT. ASTRON. OCH FYSIK VOL.7, NO.32, 1-13 (1912)

PHASE TRANSITION HEAT (79 TO 88 DEGREES K AND 0.3 TO 0.8 ATM.)
OXYGEN, NITROGEN
EXPERIMENTAL - TABLE (21 VALUES), GRAPHS, EQUATIONS
APPARATUS
GERMAN

226 WOOLLEY, H.W.
EFFECT OF DISSOCIATION ON THERMODYNAMIC PROPERTIES OF PURE
DIATOMIC GASES
NATL. ADVISORY COMM. AERONAUT. TECH. NOTE NO. 3270, 19 P (1955)

ENTROPY, ENTHALPY, EQUILIBRIUM CONSTANTS (0 TO 5000 DEGREES K AND
1 ATM.)
OXYGEN, NITROGEN, HYDROGEN
THEORETICAL - TABLES (20 VALUES), GRAPHS

227 WOOLLEY, H.W.
THE NBS - NACA TABLES OF THERMAL PROPERTIES OF GASES. TABLE 9.10.
MOLECULAR OXYGEN (IDEAL GAS STATE)
NAT. BUR. STANDARDS HEAT AND POWER DIVISION (JULY 1949)
REPRINTED IN DOCUMENT 231

228 WOOLLEY, H.W.
THE NBS - NACA TABLES OF THERMAL PROPERTIES OF GASES. TABLE 9.11.
MOLECULAR OXYGEN
NAT. BUR. STANDARDS HEAT AND POWER DIVISION (JULY 1950)
REPRINTED IN DOCUMENT 231

229 WOOLLEY, H.W.
THE NBS - NACA TABLES OF THERMAL PROPERTIES OF GASES.
TABLE 10.10. ATOMIC OXYGEN (IDEAL GAS STATE)
NAT. BUR. STANDARDS HEAT AND POWER DIVISION (DECEMBER 1949)
REPRINTED IN DOCUMENT 96

230 WOOLLEY, H.W.
THE NBS - NACA TABLES OF THERMAL PROPERTIES OF GASES.
TABLE 10.11. ATOMIC OXYGEN
NATL. BUR. STANDARDS HEAT AND POWER DIVISION (JULY 1950)
REPRINTED IN DOCUMENT 96

231 WOOLLEY, H.W.
THERMODYNAMIC PROPERTIES OF MOLECULAR OXYGEN
NATL. BUR. STANDARDS RESEARCH PAPER NO. RP 2611 (1953)

P-V-T, COMPRESSIBILITY FACTOR, SPECIFIC HEAT (P=CONSTANT), VELOCITY OF SOUND, VAPOR PRESSURE, ENTROPY, ENTHALPY, THERMAL CONDUCTIVITY, VISCOSITY, PRANDTL NUMBER, FREE ENERGY (GIBBS FUNCTION) SPECIFIC HEAT RATIOS (10 TO 5000 DEGREES K AND 0.01 TO 100 ATM.)
REFERENCE WORK

232 WOOLLEY, H.W.
THERMODYNAMIC FUNCTIONS FOR MOLECULAR OXYGEN IN THE IDEAL GAS STATE
J. RESEARCH NATL. BUR. STANDARDS VOL.40, 163-8 (1948) RP1864

SPECIFIC HEAT (P=CONSTANT), ENTROPY, ENTHALPY (100 TO 5000 DEGREES K AND 1 ATM.)
THEORETICAL - TABLE (180 VALUES)

233 WOOLLEY, H. W. AND BENEDICT, W. S.
GENERALIZED TABLES OF CORRECTIONS TO THERMODYNAMIC PROPERTIES FOR NON-POLAR GASES
NATIONAL ADVISORY COMMITTEE FOR AERONAUTICS, WASHINGTON, TECH. NOTE NO. 3272, (MARCH 1956) 62 P.

DENSITY, VIRIAL COEFFICIENTS, EQUATION OF STATE, ENTROPY, ENTHALPY, SPECIFIC HEAT (P=CONSTANT)(V=CONSTANT), SPECIFIC HEAT RATIO, ISENTROPIC EXPANSION COEFFICIENT (ADIABATIC BULK MODULUS DIVIDED BY PRESSURE), VELOCITY OF SOUND (80 TO 5000 DEGREES K AND 1 ATM.)
OXYGEN, ARGON, NITROGEN, HYDROGEN AND 9 OTHER GASES
THEORETICAL - TABLES, GRAPHS, EQUATIONS

234 WROBLEWSKI, M.S.
SUR LA TEMPERATURE CRITIQUE ET LA PRESSION CRITIQUE DE L'OXYGENE
CONCERNING THE CRITICAL TEMPERATURE AND CRITICAL PRESSURE OF OXYGEN
COMPT. REND. VOL.97, 309-10 (1883)

CRITICAL POINT
EXPERIMENTAL - TABLE (1 VALUE)
FRENCH

235 WROBLEWSKI, S.
UEBER DEN GEBRAUCH DES SIEDENDEN SAUERSTOFFS, STICKSTOFFS, KOHLENOXYDS SOWIE DER ATMOSPHARISCHEN LUFT ALS KALTEMITTEL
CONCERNING THE USE OF BOILING OXYGEN, NITROGEN, AND CARBON MONOXIDE AS WELL AS LIQUID AIR AS COOLING MEDIA
ANN. PHYSIK VOL.25, 371-407 (1885)

VAPOR PRESSURE (127 TO 149 DEGREES K AND 16.37 TO 43.5 ATM.), CRITICAL POINT
EXPERIMENTAL - TABLE (54 VALUES)
GERMAN

236 ZIEBLAND, H.
DIE WARMELEITFAHIGKEIT VON STICKSTOFF, SAUERSTOFF UND ARGON IN FLUSSIGEM UND GASFORMIGEM ZUSTAND
THE THERMAL CONDUCTIVITY OF NITROGEN, OXYGEN AND ARGON IN THE LIQUID AND GASEOUS STATE
DECHEMA MONOGRAPH. VOL.32, 74-82 (1959)
TRANSLATION AVAILABLE FROM
THERMOPHYSICAL PROPERTIES RESEARCH CENTER, SCHOOL OF MECHANICAL ENGINEERING, PURDUE UNIVERSITY, LAFAYETTE, INDIANA

THERMAL CONDUCTIVITY (80 TO 200 DEGREES K AND 1 TO 130 ATM.)
EXPERIMENTAL - TABLES (400 VALUES), GRAPHS
APPARATUS
GERMAN

237 ZIEBLAND, H. AND BURTON, J.T.A.
THE THERMAL CONDUCTIVITY OF LIQUID AND GASEOUS OXYGEN
BRIT. J. APPL. PHYS. VOL.6, 416-20 (1955)

THERMAL CONDUCTIVITY (80 TO 200 DEGREES K AND 1 TO 130 ATM.)
EXPERIMENTAL - TABLE (70 VALUES), GRAPHS
APPARATUS

NOTES

U. S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

NATIONAL BUREAU OF STANDARDS
A. V. Astin, *Director*

THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its major laboratories in Washington, D.C., and Boulder, Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant publications, appears on the inside of the front cover.

WASHINGTON, D.C.

Electricity. Resistance and Reactance. Electrochemistry. Electrical Instruments. Magnetic Measurements. Dielectrics. High Voltage.

Metrology. Photometry and Colorimetry. Refractometry. Photographic Research. Length. Engineering Metrology. Mass and Scale. Volumetry and Densimetry.

Heat. Temperature Physics. Heat Measurements. Cryogenic Physics. Equation of State. Statistical Physics.

Radiation Physics. X-ray. Radioactivity. Radiation Theory. High Energy Radiation. Radiological Equipment. Nucleonic Instrumentation. Neutron Physics.

Analytical and Inorganic Chemistry. Pure Substances. Spectrochemistry. Solution Chemistry. Standard Reference Materials. Applied Analytical Research.

Mechanics. Sound. Pressure and Vacuum. Fluid Mechanics. Engineering Mechanics. Rheology. Combustion Controls.

Organic and Fibrous Materials. Rubber. Textiles. Paper. Leather. Testing and Specifications. Polymer Structure. Plastics. Dental Research.

Metallurgy. Thermal Metallurgy. Chemical Metallurgy. Mechanical Metallurgy. Corrosion. Metal Physics. Electrolysis and Metal Deposition.

Mineral Products. Engineering Ceramics. Glass. Refractories. Enameled Metals. Crystal Growth. Physical Properties. Constitution and Microstructure.

Building Research. Structural Engineering. Fire Research. Mechanical Systems. Organic Building Materials. Codes and Safety Standards. Heat Transfer. Inorganic Building Materials.

Applied Mathematics. Numerical Analysis. Computation. Statistical Engineering. Mathematical Physics. Operations Research.

Data Processing Systems. Components and Techniques. Computer Technology. Measurements Automation. Engineering Applications. Systems Analysis.

Atomic Physics. Spectroscopy. Infrared Spectroscopy. Solid State Physics. Electron Physics. Atomic Physics.

Instrumentation. Engineering Electronics. Electron Devices. Electronic Instrumentation. Mechanical Instruments. Basic Instrumentation.

Physical Chemistry. Thermochemistry. Surface Chemistry. Organic Chemistry. Molecular Spectroscopy. Molecular Kinetics. Mass Spectrometry.

Office of Weights and Measures.

BOULDER, COLO.

Cryogenic Engineering. Cryogenic Equipment. Cryogenic Processes. Properties of Materials. Cryogenic Technical Services.

Ionosphere Research and Propagation. Low Frequency and Very Low Frequency Research. Ionosphere Research. Prediction Services. Sun-Earth Relationships. Field Engineering. Radio Warning Services. Vertical Soundings Research.

Radio Propagation Engineering. Data Reduction Instrumentation. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Propagation-Terrain Effects. Radio-Meteorology. Lower Atmosphere Physics.

Radio Standards. High Frequency Electrical Standards. Radio Broadcast Service. Radio and Microwave Materials. Atomic Frequency and Time Interval Standards. Electronic Calibration Center. Millimeter-Wave Research. Microwave Circuit Standards.

Radio Systems. Applied Electromagnetic Theory. High Frequency and Very High Frequency Research. Modulation Research. Antenna Research. Navigation Systems.

Upper Atmosphere and Space Physics. Upper Atmosphere and Plasma Physics. Ionosphere and Exosphere Scatter. Airglow and Aurora. Ionospheric Radio Astronomy.

USCOMM-NBS-BL

NBS